WASHINGTON TRANSPORTATION PLAN | 2040 and Beyond

Washington State Transportation Commission

Connecting Washington communities for a healthy and prosperous future.

Statewide Transportation Vision

Washington's transportation system safely connects people and communities – fostering commerce and economic opportunity for all, operating seamlessly across boundaries, and providing travel options to achieve an environmentally and financially sustainable system.

Statewide Transportation Goals (RCW 47.04.280)

Economic Vitality – Promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.

Preservation – Maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.

Safety – Provide for and improve the safety and security of transportation customers and the transportation system.

Mobility – Improve the predictable movement of goods and people throughout Washington state, including congestion relief and improved freight mobility.

Environment and Health – Enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.

Stewardship – Continuously improve the quality, effectiveness, and efficiency of the transportation system.

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Preface

Statewide transportation policy plays out in countless individual decisions by local, regional, and state agencies every day. It's important for those decisions to work together to support Washington's transportation needs today and over the long term. That is the purpose of the Washington Transportation Plan, or WTP, updated every four years by the Washington State Transportation Commission. The WTP provides the policy framework that helps ensure day-to-day decisions made by hundreds of transportation partners across the state are consistent with statewide policy and work in concert to support the mobility needs of Washington residents and businesses.

The Transportation Commission is required under RCW 47.01.071 to prepare and update every four years a comprehensive and balanced statewide transportation policy plan. The policy plan is to be consistent with Growth Management Act objectives and support the six statewide transportation goals established under RCW 47.04.280 by the legislature. It must be prepared with input from diverse transportation stakeholders, identify significant statewide policy issues and recommend to the legislature policies and strategies that support a safe and efficient transportation system.

WTP 2040 and Beyond is the Transportation Commission's 2018 strategic statewide policy plan. It updates the Commission's previous WTP 2035 and incorporates relevant findings from the Washington State Department of Transportation's own ***WTP, Phase 2 – Implementation 2017-2040***.

This document lays out strategic issues facing Washington State and emerging opportunities to support the mobility needs of people and businesses across the state. It considers all elements of the statewide transportation system and the roles and responsibilities of the many different owners and operators of that system.

The Statewide Transportation System

What exactly are we talking about when we talk about the statewide transportation system?

First, when we talk about transportation we're talking about all forms of transportation. Cars and trucks, but also transit, biking, walking, rail and aviation, and marine transport.

The statewide system itself includes the facilities owned and operated by the Washington State Department of Transportation (WSDOT) and all of the state's cities, towns, and counties, as well as facilities and services owned and operated by transit agencies, port districts, shippers, and independent operators. Increasingly it includes on-demand mobility services offered by transportation network companies like Lyft, Uber, and Waze. ***WTP 2040 and Beyond*** is a policy plan for a statewide system that includes:

- 17,108 centerline miles of city streets
- 39,237 centerline miles of county roads
- 7,055 centerline miles of state highways

- 7,410 vehicular bridges owned and maintained by WSDOT, cities, and counties
- Traffic management facilities, ramp meters, and other operations management systems and devices
- 3,752 fish bearing highway crossings of which 1,995 are fish passage barriers
- Over 350 park-and-ride lots offering more than 50,000 parking spaces
- 13 international border crossings between the United States and Canada by land, and two border crossings by water
- 20 public ferry routes operated by state, county, transit and tribal agencies, and 4 private ferry routes, as well as their associated terminals and dry docks
- 465 miles of Columbia-Snake River navigable waterways
- Buses, paratransit vehicles, and vanpools of 32 transit agencies as well as the commuter rail, light rail, and street cars operated by some of those agencies
- Airports and marine terminals in 75 port districts in 33 counties
- Sidewalks, trails, bike lanes, crosswalks, and other non-motorized facilities
- Amtrak and national intercity bus companies like Greyhound, NW Trailways, and Bolt
- Intermodal freight transfer facilities that move goods efficiently between trucks, rail, ships, and planes
- Taxis and Transportation Network Companies like Lyft, Uber, and Waze
- 17,028 miles of reservation roads, Department of Natural Resources and Forest Service roads

It also includes the technology infrastructure that supports Transportation System Management and Operations (TSMO), and travel demand management (TDM) strategies, both of which help to make the existing system operate as efficiently as possible and reduce the need for more costly capacity projects.

These facilities accommodate over 7.9 million registered passenger vehicles, trucks and motorcycles. They're used by millions of people many times every day to get from "here" to "there" and back again by transit, pooling, walking, or biking, in addition to driving. Airlines, trucking companies, and maritime shipping lines depend on the statewide transportation system for reliable service from major ports of entry to our doorsteps. The statewide system supports local and state economies and connects Washington to the rest of the country and to the world.


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The Commission's Role in Statewide Transportation Policy

The Commission itself does not own or operate part of the statewide transportation system, but its role is important. In addition to advising the legislature and the Governor on transportation policy and finance concerns, the Commission:

- Serves as the State Tolling Authority for highway and bridge tolls and sets fares for Washington State Ferries
- Conducts statewide outreach with the public and with local and regional agencies around the state to maintain an on-going forum on transportation policies and needs, and
- Conducts specialized research and outreach on topics such as road usage charges and autonomous vehicles.

All of this informs the other primary responsibility of the Commission established in state law: preparing and regularly updating a comprehensive, balanced, long-range statewide transportation policy plan that supports the goals established in RCW 47.04.280, is consistent with the Growth Management Act, and which reflects regional needs and priorities.

The statewide policy plan must:

a. Establish a vision for the statewide transportation system
b. Identify significant statewide transportation policy issues and
c. Recommend statewide transportation policies and strategies to the legislature that ensure the development and maintenance of a comprehensive and balanced statewide transportation system, one that provides for safe and efficient multimodal transportation services for people and goods.

The Commission's statewide policy plan is the framework that helps ensure consistency between all of the individual plans of local and state agencies and the state's priority transportation goals. State, regional, and local plans reflect coordinated planning processes that support state and national objectives. In turn, the Commission's plan considers the needs and priorities identified in those plans. In this way, the Commission's strategic policy plan not only reflects the priorities of the legislature but also supports implementation of those priorities at the local, regional, and state levels while identifying and advancing recommendations that address statewide transportation issues.

WTP *2040 and Beyond*

This document is the required update of the statewide policy plan. Even were it not required, this update is warranted. Transportation today is subject to the same rapid pace of change affecting so many other aspects of our daily lives. A periodic refresh gives us a chance to look at emerging issues and opportunities, recalibrate our direction where needed, and identify near term measures that can help us address our mobility needs today and long into the future. Many things are working well, such as the increased emphasis on multimodal travel, practical solutions, and a focus on operations; we want them to continue working well. At the same time, there are stubborn challenges we've wrestled for years, such as funding for maintenance and preservation, and new issues are taking shape that affect all aspects of our transportation system.

Development of ***2040 and Beyond*** required the active participation of transportation stakeholders across the state. This document reflects the input of local, regional, and state agencies, industry representatives, and funding authorities. It incorporates viewpoints on transportation from mobility advocates as well as land use, economic, social, and environmental perspectives. It considers public sector, private sector, and individual concerns. ***2040 and Beyond*** was refined with input received at public meetings conducted around the state. In short, it is a plan for the state's transportation system developed by transportation stakeholders.

Statewide Transportation Goals

2040 and Beyond supports the six transportation goals established by statute in RCW 47.04.280. Each of the six goals – economic vitality, preservation, safety, mobility, environment and health, and stewardship – includes policies and recommendations to support the statewide goals. They also identify intersections with key cross-cutting topics.

Cross-cutting Topics

2040 and Beyond highlights three cross-cutting topics that every transportation agency is grappling with:

- **Technology and Innovation**, and the transformational effects this is having on the ways we think about mobility in the 21st century.
- **System resilience** in the face of climate change or a significant disaster like an earthquake, and how to fund preparations for effective response and recovery.
- **Paying for transportation** when traditional gas tax revenues are inadequate, federal cost-sharing participation is dwindling, and the bill is coming due on decades' worth of deferred maintenance and preservation.

These cross-cutting topics raise questions without easy answers. They are cross-cutting in that they have implications for each of the six statewide goals. They highlight some of the most pressing uncertainties that transportation agencies face today as they work to build and operate a 21st century transportation system that meets the mobility needs of people and goods, and which we can reasonably afford to build and maintain.

The Future of Funding

Speaking of funding, ***2040 and Beyond*** highlights the funding dilemma facing transportation – there is not enough money from existing sources to take care of the system that is already in place, much less to make it larger. This is as true for local government as it is for the state. There are things we can do to get more bang for the buck, starting with fully funding basic maintenance and preservation needs and thinking strategically about where we allocate federal transportation funds. That is easier said than done, though. There are competing demands for limited funds, some of which are restricted in their use. It will take strategic thinking, innovation, and political courage on the hard decisions needed to make transportation funding more sustainable.

Recommendations

Recommendations are associated with each of the six transportation goals and with the Future of Funding. Recommendations are indicated as near-term strategies that can be initiated during the term of this plan, between now and 2023, and long-term strategies that might get underway in this time period if the opportunity presents itself, but which are more likely to occur after 2023.

What you won't find in this plan is a wish-list of projects or specific project funding recommendations. It is not that kind of a plan. Implementation is the realm of the state and local transportation plans which are developed on a place-based or system-based scale. This is a statewide policy plan, which is reflected in its recommendations.

Tough Topics

A small number of particularly difficult transportation issues face Washington. These "tough topics" are challenges bigger than any one jurisdiction or agency. They include reliable I-5 crossing of the Columbia River, capacity constraints at Sea-Tac airport, inefficiencies in inter-regional public transportation, and shoring up the Puget Sound ferry system. They are tough for a reason – strategies haven't been developed, nor are there the resources with which to address them. Yet ignoring them is irresponsible because the consequences of doing nothing are unacceptable and will have statewide implications. It will take time to work through the issues to arrive at reasonable strategies and even longer to implement them. ***2040 and Beyond*** highlights them as priority issues to begin addressing at a statewide level.

A 21st Century Transportation Plan

2040 and Beyond is more than this document. A companion piece, found at www.WTP2040andBeyond.com, provides an alternate format that better aligns with 21st century communications. The online version provides users with a greater array of information about the statewide system than can be adequately conveyed in a 20th century paper format. The online version augments policy information with direct links to data, source reports, current studies, and relevant research. It is a portal to the websites and plans of many different stakeholders. It is intended as a living plan that will remain current and relevant throughout its term of use, providing a useful resource to support on-going implementation activities and increasing awareness of complementary work around the state and emerging research and practices.

Meeting Our Mobility Needs, Together

2040 and Beyond is a strategic policy plan for the statewide transportation system. Implementation is not dependent on the work of a single agency but on the on-going and collective efforts of hundreds of stakeholders working at the local, regional, state, and tribal levels. Implementation is not a single action or set of actions, but a coordinated and continuing collaboration of efforts among the many stakeholders and other partners with overlapping interests. This is a plan for Washington's future to ensure our transportation system supports broader community objectives about quality of life, economic health, equitable access, and environmental sustainability. Together, we will meet our mobility needs.

2040 and Beyond - The Route Ahead

This is a plan for Washington's future. We're looking forward, rapidly approaching a 2020 horizon that seemed distant not so long ago and realizing that 2040 will be here before we know it. It feels like 2040 is here already as the pace of change and transformation all around us accelerates. What will we think when we look back on this time 20 years from now?

None of the long-range plans adopted in the late 1990s foresaw the kind of changes we've seen in the last two decades.
• Smart phones and ride-hailing apps • Electric ferries • Ridesharing companies and Mobility as a Service • Dynamic tolling • Drones • Autonomous delivery vehicles • Solar roadways • Driverless cars and trucks • E-bikes. These aren't on the horizon—it's our reality today. These transportation innovations and disruptions have been matched by equally radical transformations in the retail sector, manufacturing, telecommunications, supply chain logistics, health care, and energy production.

Over the last twenty-five years, many of our visions have been translated into reality. Lots of that has been quite good.

The way we build our communities today means that more of us have access to more travel choices for more of our travel needs than ever before.

That's no small feat in a state that grew up with the automobile. There are still plenty of cars; that won't change. But it's not the only choice in more and more places because we're building our communities in ways that make those choices possible.

There's room for improvement too. We have some tough issues in front of us, issues having to do with housing affordability and uneven economic opportunities across the state. At first they don't seem like transportation issues, but on closer look it's clear that transportation is part of the solution. We have to make inroads on those broader issues before we can make much progress on thorny congestion issues.

That's why we look ahead and refresh our plans. Looking out 20 years or more gives us a fresh perspective on what we're facing in the next three to five years. It gives us a chance to ask some big questions and the time to work through the answers. It gives us a chance to take stock of what's missing, assess what's on

the horizon, and make sure we're not leaving parts of our community behind.

Transportation

A means to an end

2040 and Beyond is about so much more than transportation. It's about the impacts transportation has on quality of life and the access it provides to the economic and social opportunities of our daily lives. It's about the people, places, and prosperity of this great state.

This plan takes into account the opportunities Washington affords its residents and businesses, the health of our environment, and stability of our communities. It considers how transportation relates to economic vitality across the entire state.

Transportation is a means to achieving our overarching objectives; rarely is transportation the objective itself.

This plan is inspired by the things that are made possible by transportation at least as much as it is about transportation itself.

Talking about transportation. Let's be clear—when we talk about transportation we are talking about the whole system, not just highways or streets and roads. We're talking about all the ways that people, goods, and services get from "here" to "there" and back again. When we talk about transportation we're talking about the multimodal system of streets, roads and highways, transit and ferry systems, transit hubs and park-and-ride lots, rail roads, strategic waterways, marine terminals and airports, bridges, sidewalks, bike lanes, and trails. We're interested in the management of those systems, from operational efficiency and interconnectivity to safety, managing demand, and life-cycle maintenance costs. We're interested in how well they connect, with seamless transfers from one mode to another. In short, we're interested in mobility and access.

Strategic Statewide Policy Plan

This forward-looking plan for Washington reflects the diversity and complexity of our communities, regions, economies, and lifestyles from one end of the state to the other. It builds on the work that has gone before and helps ensure that the countless individual decisions and investments made at every level of government continue to advance our statewide goals.

We have a long history of coordinated

transportation planning in Washington state. There are hundreds of transportation plans in place right now or under development —from local, regional, transit, tribal, and state governments—each with its own role in making transportation work for Washington. It's a messy-looking process on paper but it works surprisingly well, given that the statewide transportation system includes everything from multimodal pathways to international shipping hubs.

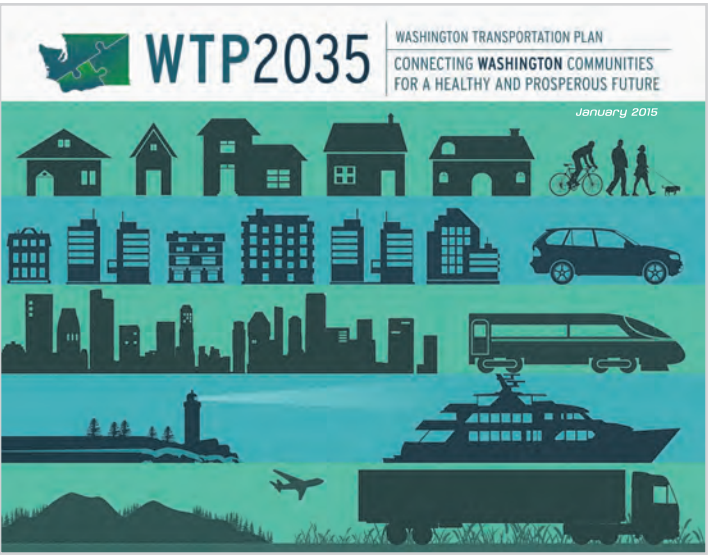
The majority of those plans are coordinated with bigger comprehensive land use plans for community or regional growth, or to support specific economic, social, or environmental initiatives. From long-range policy and modal plans to short-range implementation plans, multi-disciplinary corridor and subarea plans to intersection plans and paving programs, from six-year improvement programs to congestion management tolling plans, and industry leading research and sector studies on every aspect of mobility, there is a plan for every part of Washington's transportation system.

This statewide policy plan is one part of that coordinated planning process. It does not duplicate the individual plans and implementation recommendations.

The statewide policy plan provides the overarching framework of statewide goals needed to ensure consistency among those other plans and helps Washington to meet its statewide transportation policy goals established by the Legislature[1].

Maintaining consistency with statewide goals and policies helps ensure that all of those local, regional, and state plans are also consistent with each other and work together to meet our mobility needs.

2040 and Beyond builds on the progress that has been made in the last 25 years and takes this opportunity to challenge our thinking about the next 25 years. It sets the table for policy discussions on emerging, cross-cutting topics that have implications all across the state—how to better accommodate transformative technologies and other innovations in the ways we plan for and provide a highly functioning transportation system, and what resiliency means in an era of climate change, extreme weather events, and natural disasters. It builds on the Commission's recent work about how to pay for transportation and poses core questions that will inform the evolution of



transportation funding in Washington state for the next few decades. Importantly, it deliberately sets out to break down some of the silos in our thinking about statewide transportation policy and other community goals, better reflecting the way transportation works in the real world.

We're Not Starting From Scratch

2040 and Beyond is a refresh of the ***2035 Washington Transportation Plan[2] (2035 WTP)*** adopted by the Commission in January 2015. That plan was based on a solid planning foundation rooted in this state's long-standing commitment to growth management and coordinated transportation land use decision-making. It reflected the commitment of state and local transportation departments working to deliver an integrated multimodal transportation system that meets the needs of all users.

The ***2035 WTP*** emphasized the vital role of public transportation as a part of the strategy to improve mobility in key corridors, connect rural communities to urban services, and ensure equitable access regardless of income or ability. It underscored the critical relationship between reliable and efficient freight movement and Washington's long-term economic prosperity. Notably, it advanced the statewide conversation about the need for sustainable funding. Subsequent actions by the Legislature resulted in the $16 billion ***Connecting Washington[3]*** investment package approved in 2015 that enhances the statewide transportation system and maintains critical infrastructure; and the Road Usage Charge[4] pilot study underway in 2018. It acknowledged that much work needs to be done to retrofit outdated infrastructure to better accommodate all modes of travel and make it safer and more seismically secure. The ***2035 WTP*** also acknowledged that looming uncertainties are changing the way we think about travel and the ability of our transportation system to meet our future needs despite those uncertainties.

The Commission's ***2035 WTP*** was followed in April 2018 by WSDOT's update of its long-range implementation plan. ***WTP Phase 2 – Implementation 2017-2040[5]***, adopted on April 30, 2018, is the 20-year implementation plan for the state transportation system. It lays out key policy recommendations for development of the state's multimodal transportation system through four focus areas and eleven action items. As the owner-operator of a significant part of Washington's transportation system, the WSDOT plan provides strategic guidance that ensures

consistency between more implementation-oriented modal and systems plans developed by various WSDOT departments. It reflects the need for communication and coordination between WSDOT and other owner-operators of the statewide transportation system. Notably, it identifies transportation technology and system resilience as two critical uncertainties with major implications for the statewide transportation system; WTP ***2040 and Beyond*** builds on that preliminary work in this plan. Together with the plans of local, regional, transit, port, and tribal organizations, WSDOT's Phase 2 implementation plan supports Washington's transportation goals in pursuit of broader statewide objectives.

Growing Concerns

It's no secret that our state is a great place to live and work. Washington has the 8th fastest growth rate in the country and has grown by about a million people each decade since 1990. Net migration continues to account for the majority of our growth as it has for the last few decades.

Economic opportunity drives much of that growth. Sector-leading opportunities in aerospace, information and communication technology, health sciences, clean technology, agriculture and food production, forest products, and military and defense industries attract investors and the best minds from across the country to work and grow more jobs in Washington. Our $80 billion international export trade ranked 3rd in the nation in 2016 behind California and Texas, and our $47 billion import trade ranked 13th in the nation[6].

Combined export and import trade accounts for about 40 percent of Washington's jobs[7].

Trade isn't the only way transportation supports our economy. Tens of thousands of Washington workers build our transportation system, from airplanes, ships, bicycles, and the technology going into modern cars to the infrastructure on which they depend. These are family-wage jobs that support our communities.

Opportunities are not distributed evenly. Unfortunately, economic opportunity is not distributed evenly across the state. 21 of Washington's 39 counties are economically distressed[8], meaning that their unemployment rates have been at least 20 percent higher than the statewide average for the last three years. These counties account for 17 percent of our state's total population, counties where state goals for economic vitality and

Many factors contribute to housing affordability. One that is often overlooked is the cost of travel. Rather than looking at housing costs separate from travel costs to work and school, we need to consider the impacts of housing plus transportation costs in our calculations of affordability[12].

the opportunities it provides remain elusive for too many people. As traditional industries decline, efforts to recruit new employers and industries are hampered by gaps in broadband infrastructure, shortage of skilled labor force and housing, and gaps in infrastructure.

Research conducted by the Washington Roundtable highlights the magnitude of economic growth disparities[9]. From 2011-2015, 71 percent of new jobs created in Washington were in the North I-5 Corridor, described in the Washington Roundtable Analysis as the I-5 Corridor from Thurston through Whatcom counties. The North I-5 corridor is home to 58 percent of the state's working age population (16-64 years old). In contrast, during that same time only 7 percent of the jobs added in the state were in the Olympic region, comprised of the five counties that make up the Olympic Peninsula, which is home to 12 percent of the state's working age population. While 2016 unemployment in the North I-5 Corridor was at 4.7 percent —below the national average of 4.9 percent —unemployment in every other region in the state was substantially higher than the national average. Even within a single metropolitan area we see increasing disparity as opportunities cluster in some areas while others are left behind.

Housing challenges increase across the state. Housing affordability and supply is a challenge nearly everywhere in the state. It is a major factor behind congestion in the Puget Sound and Clark County regions, where workers have to travel ever further to find affordable housing. Across the state, rents are increasing much faster than wages, and in 2017 the median sales price for a home in Washington set a new record at $337,700[10]. Like other states in the country, Washington is grappling with how to get a better balance between economic competitiveness, quality of life, and housing affordability. Without that balance people have to commute longer distances and travel further to meet their daily needs.

Managing Growth, Increasing Choice

One of the things that sets Washington apart from most other states in the nation is our coordinated approach to managing growth. We've been at it now for over a quarter century.

95% of the state's residents now live in a city or county that plans for jobs, housing, and transportation under the Growth Management Act[11] (GMA).

For all of the challenges that confront us in our efforts to provide safe and reliable mobility options, much has improved in the last 25 years.

- Many communities offer more opportunities for more people to reduce their travel costs while increasing their travel choices, from major metropolitan areas to small suburbs and rural towns. More people have access to more travel choices—driving, transit, walking, biking, rideshare, and virtual access—than ever in our history.
- Transit productivity and efficiency in urban areas is going up as communities grow in more transit-supportive ways, with higher density, mixed-use lifestyle options near transit. This augments the predominant auto-oriented single-family suburban options that dominated development patterns for the better part of the 20th century. Old land use patterns don't go away overnight, or even over a quarter of a century. It takes time for the market forces that drive private property development and consumer lifestyle preferences to change; regulations alone are not enough. Those changes are increasingly evident, particularly in areas with high land values where transportation-efficient development makes market sense.
- As required by GMA, local land use plans have curbed sprawling low density residential development that consumed so much of our agricultural and resource lands from the 1970s into the 1980s, helping to ensure that rural areas remain rural.
- We're managing demand for limited capacity more effectively, using an array of technologies and practices like dynamic tolling to help balance peak demand in the same way utilities do during those times when demand exceeds capacity. Our approach to system performance means that the existing transportation infrastructure can move more people and goods, so we can target our capacity investments more strategically and free up funds for other transportation needs.
- New streets and roads are being built that consider the safety and convenience of all travel modes, not just driving. More miles of sidewalks, bike lanes, and trails have been built since passage of the GMA than in all of Washington's history to that point. It's undeniable that many miles of outdated infrastructure still require upgrades but that work is happening as fast as scarce resources and other opportunities allow.

- Washington is committed to reducing greenhouse gas emissions and air pollution from motor vehicles. Emissions testing programs in Clark, King, Pierce, Snohomish, and Spokane counties help curb the worst polluters. Washington's 2005 Clean Car Law ensures that vehicles sold or leased in the state meet strict clean air standards. Aggressive carbon reduction targets are monitored biennially by Ecology and reported to the legislature. The 2016 report showed progress between 2010 and 2013, but transportation still accounts for almost 43 percent of greenhouse gas emissions, with cars, trucks, and planes making up the vast majority of those emissions.

Transportation doesn't exist in a vacuum. Coordinating transportation and land use decision-making means thinking about transportation in the context of statewide growth and economic opportunity.

The past is no prediction of the future. At every level of government, throughout the private sector, and even for households and individuals, the transportation decisions we face in the future are going to be different from those we faced in the past. Many drivers of change are outside the control of any government agency or community and are happening at an unprecedented pace. We are challenged to ask different questions and think differently about possibilities and choices than we have in the past. For example:

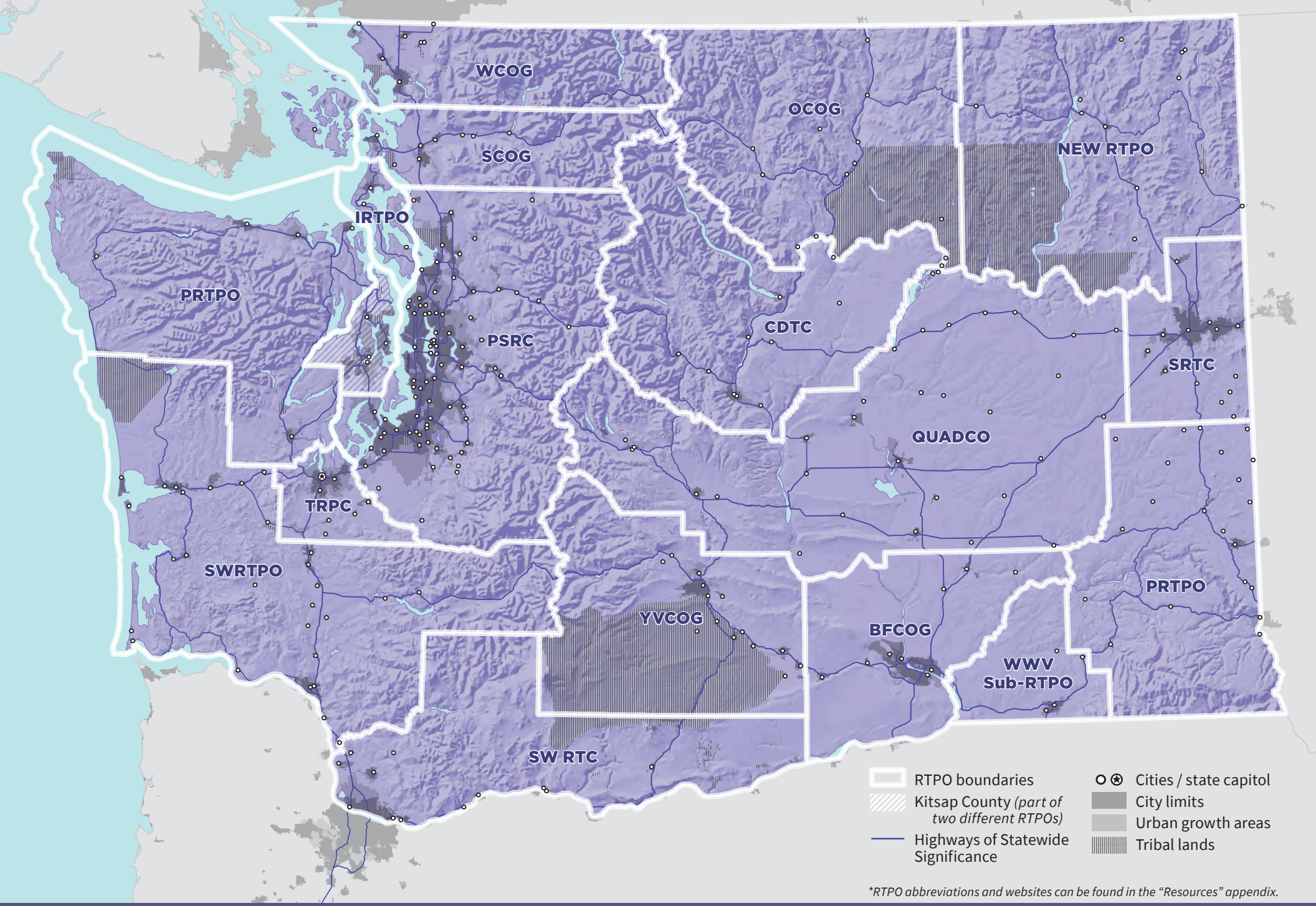
- What are realistic expectations about system performance and level of service, and how do we manage our resources to meet those expectations?
- How do we harness data, technology, and the emerging paradigm shifts around personal mobility to achieve broader societal, environmental, and economic goals all across Washington and not just in selected pockets or populations?
- How can mobile applications of technology improve the flow and delivery of cargo on local freight corridors?
- How do we adapt our decision-making processes and funding structures to better participate and effectively engage in these transformative processes to maximize public benefit from the changes and minimize negative impacts and missed opportunities?
- What does coordinated decision-making mean in an era of ridesharing and Mobility as a Service? Do we have access to the right data to make investment decisions? Are we ready to share and manage data between different sectors and agencies?

For the foreseeable future we need to continuously evaluate the adequacy of our tools and assumptions, continue to advocate for maintenance and preservation of existing facilities, and work to become more nimble in our decision-making processes to keep up with the pace of evolution.

Regional Perspectives

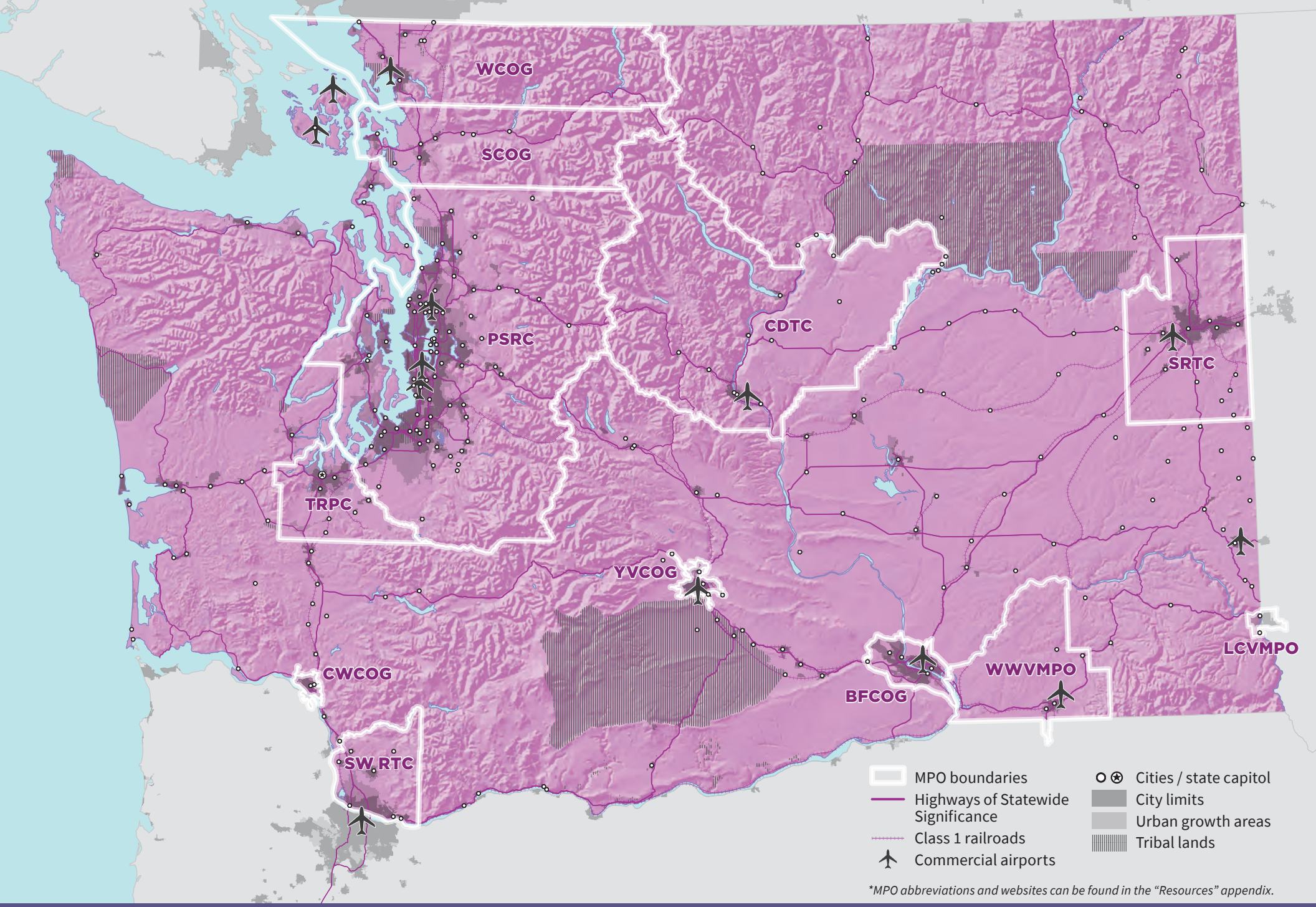
When we want a comprehensive overview of what's happening on the ground in every region in the state, when we need insights to changes that are underway, there's no better resource than Regional Transportation Planning Organizations (RTPOs) and their federally chartered urban counterparts, Metropolitan Planning Organization (MPOs). Created at the same time as the GMA, Washington's RTPOs have been at the forefront of coordinated transportation and land use decision-making for a quarter century. Many of our MPOs have been at the center of regional collaboration even longer.

RTPOs and MPOs are well positioned to provide useful insights on funding priorities, intergovernmental coordination, program effectiveness, and strategic opportunities. While they vary greatly in size and capacity, these bodies made up of local elected officials and key transportation interests, understand how transportation in their region intersects with land use and economic development goals, and how well the multimodal system of local and state facilities and services works together to support those goals.



*RTPO abbreviations and websites can be found in the "Resources" appendix.

Each of Washington's counties except San Juan County is part of an RTPO[17]. RTPOs were established as a part of the GMA legislative process and play an important role in growth management. This map shows all 16 RTPOs with cities, towns, and urban growth areas, tribal reservations, and highways of statewide significance. A link to the website of each RTPO is in the appendix.



*MPO abbreviations and websites can be found in the "Resources" appendix.

In contrast to RTPOs, MPOs are designated by federal statute and exist only in urban areas with a population of 50,000 or more. All MPOs are part of an RTPO, but not all RTPOs are part of an MPO[18] . This map shows Washington's 12 MPO boundaries with highways of statewide significance, commercial airports, and Class I rail roads. A link to the website of each MPO is in the appendix.

Several of the state's RTPOs and MPOs include military bases. Active duty military bases present unique challenges for coordinated transportation land use planning that are unlike those of local jurisdictions. As the second largest employer in Washington after state government, the military is an important part of the state's economy. Bases are major freight generators and depend on a functioning transportation system to support their mission. RTPOs and MPOs have developed good working relationships with their military partners and work with local jurisdictions to ensure that development patterns adjacent to those bases do not impinge on the ability of the military to fulfill its defense mission.

Inclusive, Comprehensive, Ongoing Collaboration

The state's 16 RTPOs[13] and 12 MPOs include all of Washington except for San Juan County —every county, town and city, every transit district and WSDOT region, most ports and many special purpose districts like school districts and economic development districts are part of an RTPO. Their regional plans and processes provide a finer, more granular level of detail than can be accomplished in any state plan, each reflecting the unique character and composition of their region. The authors of the GMA realized the value in this regional role of coordination and collaboration and delegated RTPOs with responsibilities and authorities in this regard. The Commission values this unique role of RTPOs and MPOs, our shared mandates, and our productive history of teamwork and cooperation.

As a part of this update we reviewed the current plans and priorities of each RTPO and MPO, looking for consistency with, and support for, the legislative priorities established in RCW 47.04.280 and around which ***2040 and Beyond*** is built. We found that statewide goals are carried forward in RTPO plans and priorities, tailored to the specific needs and opportunities of each region. Relevant plans are compliant with GMA requirements and, in the case of MPOs, with federal planning requirements.

Consistent with the intent of ***2040 and Beyond*** to put transportation into broader community context, many regions are integrating local, regional, and state transportation considerations into an array of other community objectives • increasing housing affordability • improving access to health care • supporting walkable communities and Main Streets • addressing obesity and other public health concerns • supporting community safety • attracting infill and economic redevelopment • encouraging job stability and growth • reducing school transportation costs • improving air quality • reducing storm water runoff • and more. RTPOs and MPOs are in the vanguard of breaking down silos between transportation considerations and other community objectives. They are our boots on the ground, at the intersection of local, regional, tribal and state policies and objectives. Working together we can target investments where they generate the most benefit.

Working with Available Funding Resources

One responsibility of RTPOs and MPOs is awarding transportation funding to priority regional needs. Revenues available to regional agencies are federal funds passed through WSDOT in a coordinated process. Regions appreciate having revenues to direct towards regional priorities but for many of them, the federal character of available funds introduces complications.

- Use of federal funds entails administrative and reporting requirements that can drive project costs higher than if they were completed using non-federal funds, meaning that fewer regional needs can be met with available resources.
- Many state grants favor projects that don't include federal revenue in the funding package, making it harder for local agencies to assemble funding for a big project that has some federal dollars on it.
- Outside of major metropolitan areas, regional priorities are often small projects or programmatic needs that aren't a good fit for federal funding.

Additionally, many small and rural agencies are not authorized to use federal funds and must pay WSDOT to administer their federally funded projects if selected in RTPO or MPO processes.

It's not that regions and their partners don't want the money – they do – but the federal nature of current revenue makes it costly and complicated to use. Funds spent administering projects aren't available for delivering projects.

Opportunities exist for a more strategic approach to regional funding mechanisms and alternatives to federalizing so many projects across the state, especially in regions where the use of federal funds creates a burden. It is possible to get more done with available resources if regional funding comes from more than just federal sources.

Coordinated Transportation and Land-Use Decision Making

The success of our statewide transportation goals depends on our ability to integrate transportation and land use considerations. RTPOs and MPOs have insightful, real-world experience with what that entails and why it is easier said than done. They have practical

Washington's 29 federally recognized Indian tribes represent 29 sovereign nations, each with their own government and tribal enterprises. Tribal enterprises generate more than 30,000 jobs in Washington and invest billions of dollars in goods and services, and in capital projects[19] . Many tribes participate in the planning and project development activities of RTPOs and MPOs, as well as WSDOT. Regional agencies work to ensure ongoing tribal consultation and coordination to identify intersecting transportation and land use interests for tribal and non-tribal governments.

knowledge of the challenges local agencies face in trying to meet what are, at times, competing objectives related to mobility, congestion, land use, housing affordability, equitable access, financial constraint, and other growth management objectives.

Some regions and communities have the financial might to tip the scales and catalyze an economic opportunity, but most don't. It's hard to attract private investors to build in communities where there's little growth. Regions work with many communities that want to embrace more compact development but can't afford the sewer or water systems necessary to support higher density, mixed-use transportation-efficient development. RTPOs and MPOs know the dilemma facing smaller urban transit systems where communities desire more direct and frequent bus service but where the land use patterns don't yet generate the ridership needed to justify that service.

The GMA directed local jurisdictions to manage growth. Counties and cities are where zoning, permitting, and other land use decisions are made. Having land use authority is not the same as directing market-driven development decisions. There is a delicate balance between the regulatory framework of growth management and the economic reality that drives private property development and consumer choices. Local and regional plans control some of the levers that affect that balance, but they do not control all of them. The vast majority of Washington's 281 cities and towns do not have the economic clout to directly influence the private real estate market in meaningful ways.

Washington's wealth is not distributed evenly across the state. That is a problem for transportation and the broader statewide goals it is meant to support. In 2018, as communities in central Puget Sound experienced one of the hottest real estate markets in the country and grappled with excessive congestion, soaring housing costs, and encroachment on marine terminals, communities elsewhere on the I-5 corridor and throughout Washington were doing everything they could to attract some of that economic opportunity.

Places like the Vancouver metropolitan area, Spokane, Bellingham, Tri-Cities, and the Olympia-Lacey-Tumwater urban area also have ample growth to manage but coordination between jurisdictions is needed to mitigate spillover impacts from one jurisdiction to another. In many other places though, a bit of peak period traffic congestion and the need to model intersection operations would be welcomed.

Does transportation policy have a role in shifting the balance of that equation a little bit, to relieve some of the excess demand on one part of the state by encouraging investment in another? That raises deep philosophical questions about the role of government in influencing economic outcomes, as it should. In reality, though, we do it all the time with the transportation investments we make or don't make. How we think about that question and the potential role of transportation investments may inform how we approach concurrency in the future.

Concurrency 2.0

Concurrency is deceptively simple on its surface: Ensure that public facilities are in place to accommodate growth without diminishing adopted levels of service. If service levels cannot be maintained, then development should be denied until satisfactory infrastructure or services are in place or establish lower level of service standards. Concurrency is one of the 14 GMA goals established in RCW 36.70A. Regional transportation plans provide an important framework for local and state concurrency analysis and review.

Concurrency Revisited

When we think about it in the context of sewer or water infrastructure, concurrency is a fairly straight forward concept: is the pipe already in the ground and is it big enough to support new hook-ups? Concurrency is remarkably complicated, though, when it comes to the dynamic relationship between transportation and land use.

The fluid nature of traffic has presented a conundrum for years as local, regional, and state agencies grapple with the aggregate effects of individual local development decisions on transportation system performance in other jurisdictions and on state-owned facilities. Transportation concurrency is further complicated by long-term highway and ferry planning and investment decisions made at the state level, and near-term land use decisions made at the local level.

Unlike sewer or water utility capacity that is directly tied to localized land development patterns, transportation concurrency has to account for private property rights, the fact that people often choose to live far from where they work, and that they travel where and when they will by whatever mode they choose. Traffic congestion, travel options, land use, technology, costs of travel, pricing

and parking policies may influence those decisions but, in the end, it's the individual's choice.

This is the wild card in transportation concurrency because it directly relates to level of service and how we expect the system to perform. Level of service is fundamental to concurrency.

Understanding Level of Service

How system performance – LOS – is measured and understood has changed over time. Not long ago, in 1990 when GMA was first enacted, the only widely-recognized LOS measure entailed a complicated equation that only considered vehicle congestion during peak periods. The dominant solution to poor LOS was to build wider streets and highways. That is changing as transportation-efficient land use patterns take shape and the transportation system grows more multimodal in character.

Increasingly, local and regional agencies are using the flexibility inherent within the GMA to define system performance measures that reflect local context, measures that make sense given land use and geography, economy, and community preferences. "Multimodal LOS" is a term that takes factors besides vehicular congestion into consideration when thinking about system performance. LOS – system performance – means different things in different places. It means different things to owners and operators of the transportation system than it does to its users – the traveling public and economic interests.

The GMA recognized that there is no one-size-fits-all measure of transportation system performance. While it requires local, regional, and state agencies to establish LOS standards and use concurrency to maintain them in a coordinated and consistent fashion, it doesn't dictate what that looks like. Questions abound as to how concurrency can be applied more effectively to help us manage growth and system performance.

Time for Another Look at Concurrency

Studies commissioned in the early 2000s by the Legislature, MPOs, and cities provided insights on the efficacy of concurrency legislation at that time. Since then land use plans, multimodal transportation systems, and concurrency mechanisms have matured. As Washington recovers from the Great Recession, market forces are spurring rapid residential and commercial development in some communities while others struggle to attract private investment. Growth is not balanced across the state. Meanwhile, as

gridlock spreads, travel times increase and so does the cost of doing business in Washington State. It is time to revisit the promise and the concept of concurrency established by GMA in 1990 and ensure it is up to the needs of our 21st century transportation system.

Concurrency in the 21st Century

Concurrency is based on our expectation of how the transportation system should perform as we grow. Are our expectations about system performance realistic? Are we measuring system performance in ways that make the most sense given current and future constraints? Are there other ways of thinking about concurrency that better account for regional or system-wide needs?

As Washington approaches the 30-year anniversary of the Growth Management Act, it's a good time to ask how well concurrency supports system performance objectives around the state and whether any refinements are needed to improve its effectiveness.

Concurrency drives investments. It's a fulcrum for local and regional investments and should be seen as an investment policy, not just a procedural planning requirement.

The Legislature commissioned the Ruckelshaus Center to examine the GMA planning framework that supports Washington State's ability to achieve its desired vision. The "Roadmap to Washington's Future" study results can provide useful insights into concurrency questions but a dedicated follow-up focus on concurrency may be warranted.

We began the era of growth management in 1990 with market forces attuned to sprawling 20th century suburban land use patterns supported by an ever-expanding network of 20th century streets and highways. Comprehensive Plans helped change that land use trajectory, creating increasingly urban, walkable people-oriented places that generate demand for transit, walking, and biking, not just driving. Our approach to concurrency needs to align with that thinking. Transportation investments and new development needs to occur in tandem so that the 21st century transportation system we are building works with – not against – that land use.

Cross-Cutting Topics Embrace Uncertainty

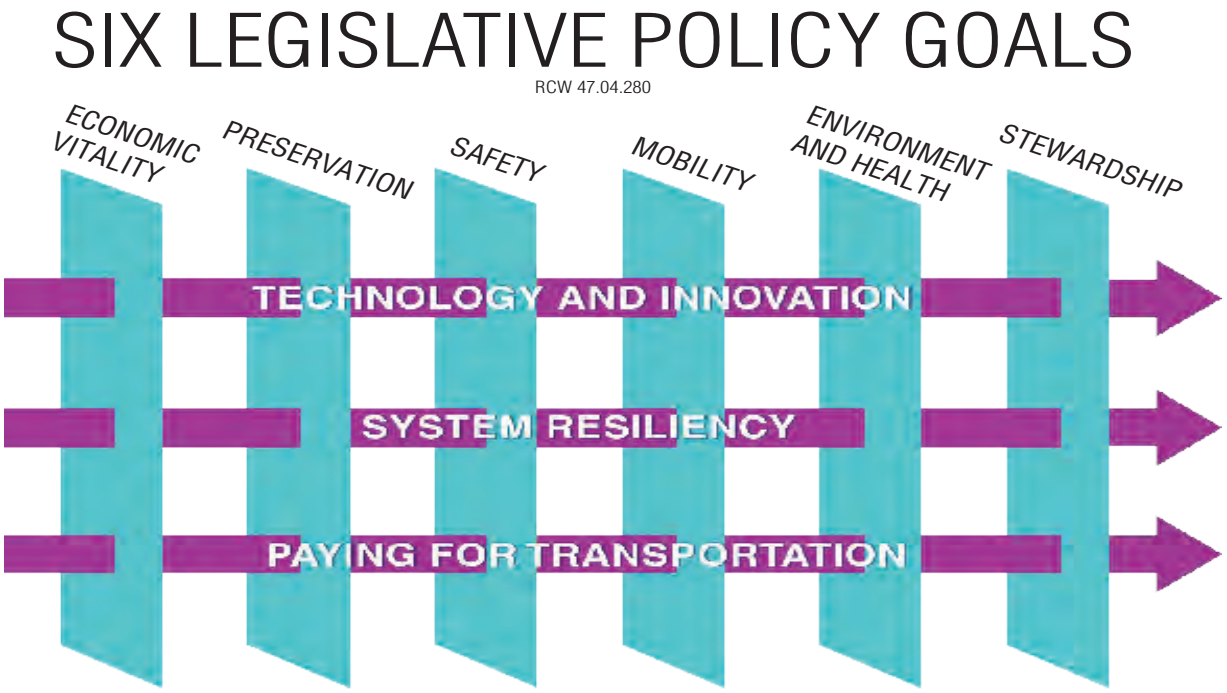
The further we look into the future the more likely we have blind spots that prevent us from knowing what is just over the horizon. Our crystal ball is murky at best when looking 20 or more years out. This is especially true when considering the rapid and transformative nature of transportation technology and how it shapes the ways we think about and provide transportation facilities and services. It is also true when we think about the potential effects that climate change, extreme weather events, and natural disasters will have on our infrastructure and the best ways to increase system resiliency.

Instead of relying on our past as an indicator of what the future holds, ***2040 and Beyond*** embraces the uncertainty associated with technology and resilience. These were identified in the 2035 WTP and advanced by WSDOT in its Phase 2 implementation plan through scenario planning. ***2040 and Beyond*** seeks to move that dialogue forward in the statewide policy arena so that we are better prepared to face the future, whatever it brings.

We've identified these uncertainties as cross-cutting topics, with implications across the board for how we understand, plan for, design, and deliver transportation infrastructure and services in the future. In addition, we advance ideas emerging from ongoing work about how to pay for transportation, since sustainable, rational funding is the means to achieving all of our other objectives.

The point of planning is to shape the future we want rather than only react to what happens.

2040 and Beyond poses some questions and big ideas in relation to these three cross-cutting topics that can advance our understanding, preparedness, and ownership of the new horizons these uncertainties foretell and the next steps and some options available to advance that understanding.



Spotlight on Connected and Automated Vehicles

The increasing automation of vehicles and their connection to other vehicles and infrastructure – leading eventually to cars and trucks that drive themselves or require very little human interaction – highlights the potential benefits, risks, and uncertainties we face from the technological transformation of mobility. As with the rollout of any new technology, there are differences of opinion as to the balance of benefits and costs. Will automated vehicles (AVs) increase or decrease vehicle miles traveled, parking demand, or changes in land use? How will the introduction of vehicles that think for themselves affect operations of the rest of the system, especially during the time when AVs and cars with drivers share the road? The answers to these and many other questions may well depend on whether public agencies actively work at integrating these new technologies, or whether they wait until private sector deployment is well underway and then react or respond to it.

Following are just a few of the thought-provoking considerations we face as Washington prepares for the introduction of driverless vehicles.

Safety: According to 2016 ***Target Zero*** data, human error is the leading cause of serious injury and fatal crashes in Washington State and nationally accounts for 94% of fatal crashes. Many believe that AVs can virtually eliminate human-induced crashes, while others point out they bring new risks, such as cybersecurity attacks, software failures, and detection and accommodation of non-motorized users.

Mobility: Connected and automated vehicles may fill critical gaps in first-mile/last-mile connections for public transportation, linking people in hard-to-reach destinations to established transit routes and services. Others see AVs as a threat to public transportation, attracting transit riders and undercutting funding support. Whether AVs will decrease congestion because of more efficient operations or increase congestion due to "zombie cars" driving around with no passengers may depend on vehicle ownership models and pricing structures.

Equity: AV technology promises greater access and independent mobility to people who cannot drive. This includes those not yet old enough to drive, those who are too old to drive, and people with disabilities that prevent them from driving. Equally significant are concerns that AVs will widen the gap in opportunities between the haves and the have-nots, and between rural and urban Washington. Others point to the likely displacement of workers in traditional transportation jobs, such as transit and truck drivers.

Freight and Logistics: The trucking industry is likely to adopt connected and automated technologies faster than consumers in the passenger vehicle market because of energy efficiency and labor cost savings, safety, and driver shortages. The first opportunities may be in the areas of long-haul trucking and last-mile package deliveries. Autonomous truck platoons can greatly increase throughput and energy efficiency, but how well will they work in mixed highway traffic? How should we manage curb space and loading zones in light of autonomous package deliveries?

Technology and Innovation

What's the problem? Government process and programs are out of sync with private-sector deployment of transportation technologies. This creates uncertainties for both public and private sectors with potential implications for the traveling public and broader societal goals.

Why is this important? Transportation technology has the potential to dramatically improve our transportation system and to spawn new industries with wide-ranging benefits. Without public input and guidance though, the benefits from those private sector advances are likely to accrue to limited pockets of major urban areas and leave Washington's other communities behind. Independent actions on the part of jurisdictions and coalitions are working to fill the void of guidance and leadership. This has been good up to now but more government engagement is necessary.

Technology has already changed how we think about transportation—how we travel, how we get things, how we pay to get from here to there.

Technology has great potential to make our system safer than it is today, more efficient, more reliable, cleaner, and more accessible. At the same time, it has great potential to undermine societal goals for more equitable access and economic opportunity. It can increase economic divides between those with the means to access new technologies and services, and those without the means. If not well managed, technology can result in higher levels of congestion, inefficiency, and pollution, not lower levels. There are questions to answer and opportunities to harness. We're in new territory. That's why it's a good time to focus on the role of technology and think about how we're going to maximize the upsides and minimize the downsides for all of Washington.

New Mobility. A generation of Washingtonians is coming of age now having grown up with 'Mobility as a Service' that enables people to hail a ride with Lyft or Uber and pay for it from the convenience of an app on their smartphones. For an increasing number of us this is now a 'traditional' travel option in the same way that getting a license and driving was for previous generations. Connected and autonomous vehicle technology holds out promise for greater safety and system efficiency, but it's too soon to tell whether it will generate a net benefit for mobility,

the environment, and community livability or whether unintended consequences will undermine broad societal objectives.

Government was on the sidelines for much of the last decade while transformative technologies and private data-driven information centers were developed and deployed in Washington and across the country. Individual agencies are reckoning with questions regarding big data and data privacy absent clear-cut guidance on best practices. Government has some catching up to do.

The Risk of Innovation. What's our game plan? What does a policy framework for cooperative, automated transportation look like for Washington state? We need a collaborative framework that helps us to objectively consider the benefits and risks so that government can, in the face of rapid change and uncertainty, make the best decisions to meet our evolving mobility needs. We want to harness technology and innovation to close the gaps in access and services, enhancing our multimodal transportation system and the livability of our communities while making mobility as efficient, safe, and cost-effective as possible.

We're challenged to adapt our institutional decision-making processes to make them more responsive to these 21st century decision-making needs and expand our thinking beyond the traditional roles and opportunities for public-private partnerships. Government can help to find win-win strategies that work for all and not just a few.

We don't have all the answers we need, but it's time to get in the game.

The time to act is now. Without deliberate actions, rural Washington will be left behind in this new era of mobility. Urban initiatives are already underway in central Puget Sound, initiated by the private sector. State, regional, and local governments, transit agencies, ports, and business leaders have a shared interest in ensuring that technological advances in mobility contribute to a safer and more efficient transportation system that supports our economic, social, and environmental objectives across the state.

Cooperative Automated Transportation, or CAT, refers to the emerging practice of collaborating across sectors and disciplines to coordinate an array of new technologies and innovations that can make travel safer and more efficient for the traveling public while enhancing overall community livability. Examples of CAT applications include cameras that help transit drivers see cyclists in their blind spots, and warnings about winter driving conditions derived from snow plow sensors.

Broadband – The Transportation of Information

As Washington looks to embrace many of the opportunities that come with transportation technology, it is vitally important that rural communities are not left behind. The economic and social opportunities that transportation technology offers are only possible if communities have broadband internet access. Expanding the broadband network will increase rural access to opportunities like telecommuting, telehealth services, and online education (e.g., access to a medical specialist through telehealth can reduce the need for long trips to a distant medical facility). Better network connectivity will also allow jurisdictions across the state—including in rural communities—to take advantage of emerging technological advances related to mobility and system operations. Access to high-speed internet service is just as important in rural areas as it is in the state's biggest urban markets.

More than 200,000 Washingtonians lack high-speed broadband access. This includes 14 percent of Washington's rural residents. In comparison, only one percent of the state's urban population lacks broadband access[14] .

Efforts to increase broadband access across the state are intended to:

- Drive job creation, promote innovation, and expand markets for local businesses.
- Serve the ongoing and growing needs of local education systems, health care systems, public safety systems, industries and businesses, and government operations, and their ability to support reliable customer and employee access.
- Improve accessibility for underserved communities and populations.

Broadband access is central to statewide discussions about the distribution of economic opportunity. Without high-speed internet access that broadband provides, people and businesses cannot fully participate in the array of 21st century opportunities that provide the foundation for a good quality of life.

System Resilience

What is the problem? Washington is unprepared for major disruptions associated with an unpredictable, but not unexpected, earthquake or volcanic event, nor is it prepared for the disruptive weather events that will occur increasingly over time as weather patterns change and sea levels rise. A 9.0 magnitude quake has rocked coastal Washington before and will again someday. While no amount of preparation can ever be "enough," recent assessments of our earthquake preparedness indicate shortfalls in meeting even the most basic lifeline services.

Why is this important? There is no doubt that a major earthquake is in Washington's future; what's uncertain is the timing. There's little doubt, too, that Washington will experience increasingly erratic and severe weather events over the next few decades as the earth's climate changes and weather patterns shift.

Regardless of whether we're talking about a singular cataclysmic event like a magnitude 9.0 earthquake, increasing episodes of severe flooding and wildfires, or more frequent "historic tides" that inundate ferry terminals or make some navigation channels impassable, we're talking about stresses on the transportation system that are unlike those we deal with on a recurring, day-to-day basis. We work to manage those recurring disruptions caused by crashes and other incidents with an array of incident management tools, demand management measures, and system retrofits. While those measures enhance in some ways our capacity to respond to bigger events, system resiliency requires us to plan for transportation in different ways and with different partners.

Transportation is one of four lifeline sectors that Washington's communities and businesses need in order to respond to, recover from, and successfully adapt to natural disasters of any type.

The other three lifeline functions are communications, water and wastewater, and energy[15] . Intergovernmental models of cooperation and coordination focused on these lifeline sectors will help people and businesses better withstand the near- and long-term effects of catastrophic events and reduce the time to recovery. Intergovernmental and cross-sector partnerships—such as those between the WSDOT and the Emergency Management Council, or amongst local governments situated along the Seismic Lifeline Corridor—are the cornerstone of transportation system

resilience and the foundation of public health, safety, and welfare in times of crisis.

Preparing for the unthinkable. As we work day to day to increase system efficiency, reduce congestion, and improve mobility, it is easy to put off planning for the more uncertain, unthinkable things that can disrupt our best plans. Planning how to respond to increasing extreme weather events like floods and wildfires, how to adapt to changing sea levels, or how to respond to the devastation of a major earthquake, tsunami, or lahar flow helps us to be better prepared for these and other disasters. This increases our resilience.

Resilience is the ability of our communities and businesses to adapt and bounce back in the face of extreme adversity. Transportation is central to that ability.

Recommendation 6 in the August 2017 ***Resilient Washington Subcabinet Report***[16] is succinct: Strengthen regional transportation networks. The Subcabinet Report acknowledges the tremendous efforts to date to seismically retrofit the "Seismic Lifeline Route" from Joint Base Lewis-McChord in Lakewood to Paine Field in Everett via Sea-Tac airport, and between I-5 and Grant County International Airport in Moses Lake. It also cautions that much work remains if this is to be completed within the next ten years. This does not include nearly 600 additional bridges statewide that need retrofitting, or the additional planning and investments needed to extend lifeline route improvements into new branch corridors, or the coordination and operating agreements that will be needed if the state has to appropriate local roadways as a part of a sustained lifeline route. It does not address the coordination needed between transit agencies and paratransit service providers, social service agencies, first responders, and others to adequately respond to massive evacuations of vulnerable populations.

Transportation system resilience itself doesn't address all of our emergency response and recovery needs but without it, most of those other response and recovery functions are nearly impossible.

Resilient Washington

Governor Jay Inslee convened the Resilient Washington Subcabinet in January 2017. The intent: help Washington and its communities and businesses to better prepare for natural disasters including earthquakes, tsunamis, wildfires, drought, storms, and flooding.

> ***Building resilience is about making people, communities, and systems better prepared to withstand catastrophic events —both natural and manmade—and able to bounce back more quickly and emerge stronger from these shocks and stresses.***
>
> ***Rockefeller Foundation***

Washington has the second-highest earthquake risk in the nation. While many people living here today can remember multiple earthquakes they "rode out," the 700-mile Cascadia Subduction Zone (CSZ) represents an extreme threat unlike any earthquake that has occurred here in over 300 years. Geologists estimate that when —not if— the CSZ breaks loose it is capable of generating a magnitude 9.0 or stronger quake and tsunami. Recent studies estimate 10,000 fatalities in Western Washington and Oregon and direct economic losses of over $80 billion with a price tag much higher. Many smaller fault zones are located throughout Washington.

The Resilient Washington Subcabinet has recommended short-term actions to help the state be better prepared for these inevitable natural disasters. This same attention to preparation and coordination will serve the state well in dealing with any number of other natural disasters. Work to date has identified high-priority actions that can be accomplished with existing resources; others, such as seismic retrofits for essential lifeline facilities, require a lot of money and time. Resilient Washington efforts underscore the critical role the transportation system plays in our ability to respond and recover from a major disaster.

Whether it is a single, cataclysmic disaster such as a CSZ earthquake or increasingly frequent and severe episodes of drought, wildfires, and flooding, prepared citizens, businesses, communities, and state are the best insurance of a strong response and a sustained recovery.

Paying for Transportation

What is the problem? Declining per capita gas tax revenues erode a traditional revenue source for transportation. Washington's state gas tax, at 49.4 cents per gallon, is the third highest in the nation, after Pennsylvania and California. Federal funding is growing unreliable, and there's been no increase in the federal gas tax since 1993.

Meanwhile, more than 60 percent of the State's overall share of state gas tax revenues are pledged for debt service to pay off construction bonds. At the same time, misalignments and inefficiencies between available funding sources and project needs undercut local and state agencies' ability to take care of the existing system while responding to emerging priorities with practical solutions. Constrained resources is a long-range issue; how to prioritize scarce resources is a near-term issue. Both are pressing challenges.

Why is this important? Without stable, predictable revenue sources and close alignment between those revenues and project needs, it is impossible for the owners and operators of Washington's transportation system to protect existing assets and services, much less to grow them in a sustainable, responsible manner. Deferring needed preservation and maintenance, as we've done for years, decreases infrastructure service life, increases taxpayer costs, and creates instability in the transportation system due to avoidable system failures. Bottlenecks and chokepoints cost the state's businesses and residents in time and money. Retrofitting 20th century infrastructure to meet 21st century needs is delayed.

The hard reality is that there has never been enough revenue to do everything we need and want our transportation system to do; we've always had to make hard choices. This may never have been truer than it is right now. Strategic system expansion competes with essential system preservation. Multimodal and system efficiency projects vie for limited sources of funding. Local, regional, and state agencies all face the challenge of inadequate funds to cover basic preservation and maintenance, much less the retrofits and improvements our aging transportation system needs.

That is why this plan reiterates the long-standing position of both the Transportation Commission and WSDOT that preservation and maintenance of the transportation system is our highest statewide transportation priority. It is smarter, cheaper, and safer to keep what we have in good repair than to rebuild it after it is worn out.

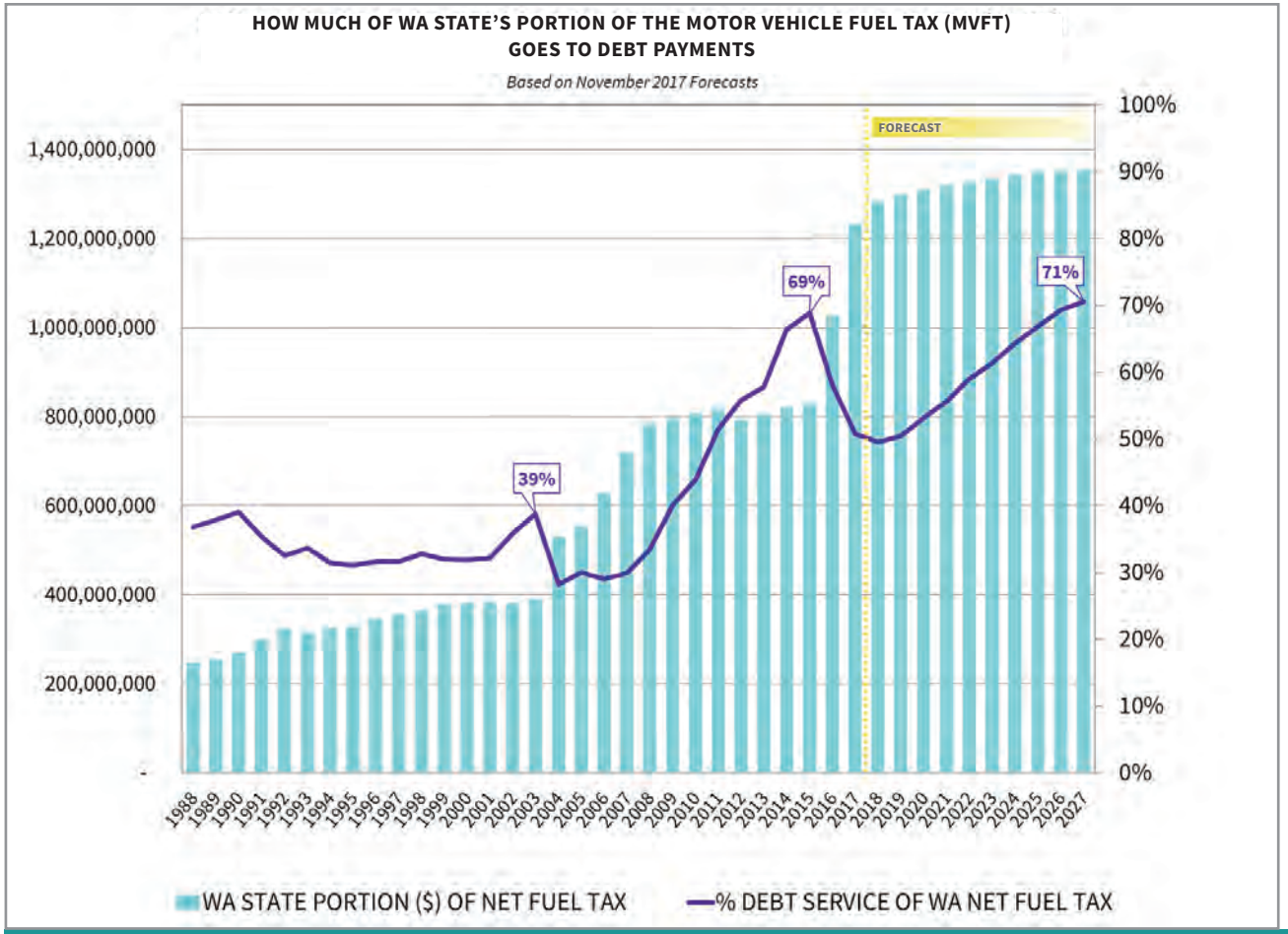
As vehicles become more fuel efficient, the need for additional, sustainable revenue will become more important. Tolling is likely to continue to support major highway projects. Sometimes, non-highway transportation needs can tap into innovative public-private partnerships. And as the gas tax also becomes a less reliable revenue source for county and city transportation, expect greater reliance on developer fees and new local funding options. Other potential funding options may involve user-based mechanisms, a new statewide carbon fee, or revenue-sharing opportunities.

Aligning Funding with Priorities. Our funding priorities and investments are out of synch. It's essential that our funding processes reflect established priorities and practical approaches to improving mobility, to get the most value out of our existing revenues for the traveling public and industry. There's a sense at state, regional, and local levels that existing resources can be optimized. As agencies embrace Practical Solutions, renew efforts to increase system efficiency and safety, and expand multimodal travel options, they're relying on funding mechanisms that don't flex in the same ways as do their mobility needs. Our buckets of money are earmarked

for specific purposes that aren't always the same as the priorities we face. Too often, capacity projects are funded while preservation and maintenance are deferred.

Local Funding Initiatives. Many jurisdictions are taking advantage of local taxing authority to raise new transportation revenues from various sources. Over 90 cities and counties are now using Transportation Benefit District funding mechanisms to augment the state and federal revenues that make up an ever-smaller share of funds for local projects. Transit agencies are asking for and receiving increased tax rates to expand services and programs. Impact fees and developer mitigation fees continue to generate revenues and improvements to accommodate new development in growing communities. Resources are limited, though, and local agencies are stretching to fund a wide array of needs in addition to transportation. Small communities generate very little revenue from local sources and don't always garner public support for local tax measures, increasing challenges for coordinated planning with those who do. The Public Works Trust Fund, once a reliable revolving loan fund for local agencies, had its reimbursement funds and other revenues diverted to other purposes, for years, making it an uncertain proposition for local financing.

Flexible Funding for Diverse Transportation Needs. Short-changing investments in an



After limited system expansion in the 1980s-1990s, Washington began using debt to significantly expand the transportation system, borrowing against the future revenue stream generated by the 2003 and 2005 gas tax increases. Today, nearly half of every penny the state receives from gas tax is used to pay off bonds.

Debt service in this chart only includes those state debts first payable by the State's portion of the fuel tax. This excludes the SR 520 corridor debt service, which is first payable by tolls, but it does include Tacoma Narrows Bridge debt service which is reimbursed by tolls. This chart also excludes fuel tax revenues distributed to cities and counties, as well as city and county debt service pledged to be paid by that revenue.

integrated multimodal system increases pressures on over-burdened highway and roadway systems by not providing viable and cost-effective alternatives; it also puts those for whom driving is not an option at a greater disadvantage. Sustainable revenue sources must be identified for multimodal needs, just as they must be for streets, roads, bridges, highways, and ferries. And if we under-invest in proven Transportation System Management and Operations (TSMO) strategies that increase system efficiency and safety, then we increase traveler costs and frustration, and inadvertently create demand for more costly capacity projects from less flexible funding sources.

A Statewide Imperative. Funding something as important to our economy and overall quality of life as transportation shouldn't be haphazard. We need a coherent approach to paying for transportation, one that provides reliable revenues for critical services and funds priorities that reflect the on-going coordination and collaboration in place at local, regional, and state levels.

The State of Transportation Funding

Our system of paying for transportation isn't very effective. That's not just because the funds available to support infrastructure investments and on-going system operations are inadequate. Available funding doesn't always align with the need, and funding mechanisms can be inefficient. Familiar issues are heard around the state:

- Misalignments exist between existing revenues and their earmarked uses compared to what needs to be funded. For example, if preservation is a funding priority and there isn't enough money to take care of the existing system, why is so much new revenue directed to capital expansion projects?
- Regional planning processes identify project priorities as required under GMA but often those priorities are not reflected in state revenue packages for new projects, especially if those regional priorities are not big highway projects, but preservation programs.
- Impact fees can only be used for capital construction and not on operational strategies to increase the effective system capacity through transit service or Transportation System Management and Operations projects.
- Property tax caps constrain local revenue generation which reduces local funds that can be directed to transportation.
- Federal revenues allocated to priority regional needs through the MPO and RTPO funding programs often result in higher project delivery costs and longer project delivery time frames than if many of those same projects had been built with state or local funds. This is compounded by the inability of many small or rural municipalities to accept and manage federal funds, or to even have a project that meets federal program eligibility requirements.
- Most state transportation revenue for the next decade is already programmed and committed, leaving little opportunity to pursue emerging innovative projects and partnerships at a time when we most need resources for innovation and technology improvements. Well over half of the State's revenue over the next decade is going towards debt financing for prior projects.

Vision

Washington's transportation system safely connects people and communities —fostering commerce and economic opportunity for all, operating seamlessly across boundaries, and providing travel options to achieve an environmentally and financially sustainable system.

Statewide Transportation Vision, Goals, and Strategies

Vision

Washington's transportation system safely connects people and communities —fostering commerce and economic opportunity for all, operating seamlessly across boundaries, and providing travel options to achieve an environmentally and financially sustainable system.

2040 and Beyond is based on the Legislature's six statewide goals established in RCW 47.04.280 that relate to:

- Economic vitality - Promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.
- Preservation - Maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.
- Safety - Provide for and improve the safety and security of transportation customers and the transportation system.
- Mobility - Improve the predictable movement of goods and people throughout Washington state, including congestion relief and improved freight mobility.
- Environment and Health - Enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.
- Stewardship - Continuously improve the quality, effectiveness, and efficiency of the transportation system.

These statewide goals have been in place since 2006 and are well integrated into RTPO policy plans, local Comprehensive Plans, and WSDOT implementation plans. They provide a good foundation for ensuring consistency between statewide policy objectives and the day-to-day decisions and investments carried out by local, regional, and state partners.

The overall aim of these statewide goals is to:

- Make the best use of existing infrastructure, services, and resources.
- Increase safety and efficiency while keeping life cycle costs as low as possible.
- Increase travel choices, system reliability, and person throughput.
- Align transportation policies and investments to support statewide economic, societal, and environmental objectives.

This section addresses the six goals individually with policies and recommendations that support each goal statewide. Recommendations are characterized as "near-term" and "long-term" actions. Near-term actions are those which should be initiated within the next four years – the life of this plan – while long-term actions may require more time to initiate. Implementation of specific recommendations will be determined by the legislature and other transportation partners through established and on-going processes.

Economic Vitality

Promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy.

Economic Vitality

Why This Is Important: Economic vitality underpins our ability to accomplish other statewide goals. A robust economy requires efficient, reliable travel options and compatible land use patterns. This is as true in highly rural Washington as it is in our major metropolitan areas, and everywhere in between. Congestion in the Puget Sound region has a ripple effect on the rest of the state, affecting the well-being of farm families in Yakima and millwrights in Port Angeles.

Four Policies that Support the Statewide Economic Vitality Goal:

1. Support economic competitiveness across the state with strategic multimodal transportation investments coordinated with corresponding land use and other infrastructure policies to improve efficient and reliable movement of goods and services, and workforce access.
2. Recognize the full range of multimodal and intermodal mobility needs that support the state's economy, including but not limited to first-mile/last-mile freight access and delivery, intermodal connectors, intermodal drayage[20] , industrial access to interstate and international travel, international border crossings, and workforce commuter travel as well as an array of multimodal systems that support travel-dependent tourism.
3. Promote innovative public-private partnerships that advance economic objectives and redefine ways of collaborating across sectors to provide infrastructure and services that meet mobility needs and align with public values about equity and access.
4. Support efforts to site or expand, as appropriate, regionally significant or statewide significant transportation facilities such as airports, intermodal transfer facilities, and other essential public facilities that support economic vitality, and minimize encroachment of incompatible land uses.

Cross Cutting Ideas

TECHNOLOGY

The dynamic knowledge-based economies of Washington, Oregon, and British Columbia are giving rise to a strong, mega-regional northwest technology corridor. The potential of this economic collaborative is challenged by mobility issues. Not only must these businesses overcome geographical differences and international border crossings, but they are challenged by unreliable and inefficient travel on the existing system. To better support economic growth in this sector, the two states and the Canadian province have joined with private sector businesses to explore possible public-private investments that will improve reliable mobility, potentially including a high-speed rail corridor or an autonomous vehicle corridor connecting Seattle to Vancouver, B.C.

RESILIENCE

During extreme weather events, which we expect to increase in frequency and severity, some parts of the transportation system must be closed including highways, streets and roads, airports, rail, and river transport. These closures have big impacts on freight mobility and workforce communities and in turn, on the state's economy and jobs. Improving the all-weather capability of our transportation system is vital to ensuring all-season access for our freight and goods system. An inventory and assessment of all-season capabilities can help us to reduce deficiencies with the greatest impact on commerce and economic vitality across the state.

FUNDING

Project funding needs to align with statewide mobility objectives to increase system efficiency and reliability, make the best use of existing resources, and encourage innovation and partnerships. Practical solutions for improving system capacity and efficiency will look different from 20th century strategies. How we pay for transportation needs to change with the times to support emerging mobility needs.

Recommendations to Advance Economic Vitality Statewide:

Near-Term Strategies

1. ***Ensure local land use policies prevent encroachment on Essential Public Facilities that support freight mobility.*** RCW 47.06.140 defines transportation facilities of statewide significance and states that these also are Essential Public Facilities subject to the requirements of RCW 36.70A.200. Freight corridors that serve marine terminals engaged in interstate and international trade are specifically identified as transportation facilities of statewide significance and as such, are Essential Public Facilities. RCW 36.70A.200 requires local jurisdictions planning under the GMA to specify the process for identifying and siting Essential Public Facilities, but it is silent on the need to protect those facilities from encroachment by incompatible land uses. A quarter of Washington state's GDP is dependent on international trade. Incompatible development has the potential to threaten the viability of Washington's ports and the critical freight infrastructure on which they depend.
2. ***Ensure Washington's freight transportation system is responsive to the technologies and market forces that are reshaping freight mobility, supply chain logistics, and commercial vehicle operations, and can support the state's economic vitality and public interests under a range of plausible future conditions.*** Private-sector freight transport is highly responsive to technology advancements that improve sustainable bottom-line performance. The importance of trade in the state's economy compels us to anticipate and prepare as best as possible for the likely implications these changes will mean for freight mobility and the transportation system on which it relies, including Washington's marine ports, intermodal freight facilities, strategic waterways, international border crossings, air cargo facilities, highways,

streets, and roads, as well as its trade-based economic sectors. It's important that the public sector is prepared for those new technologies so that public and private interests are served. This is made more challenging by the range and magnitude of external disrupting forces that are shaping the global trade that drive our economy. It is critical that decisions and investments made today avoid as many blind spots as possible to meet the state's future freight mobility needs and support a strong economy.

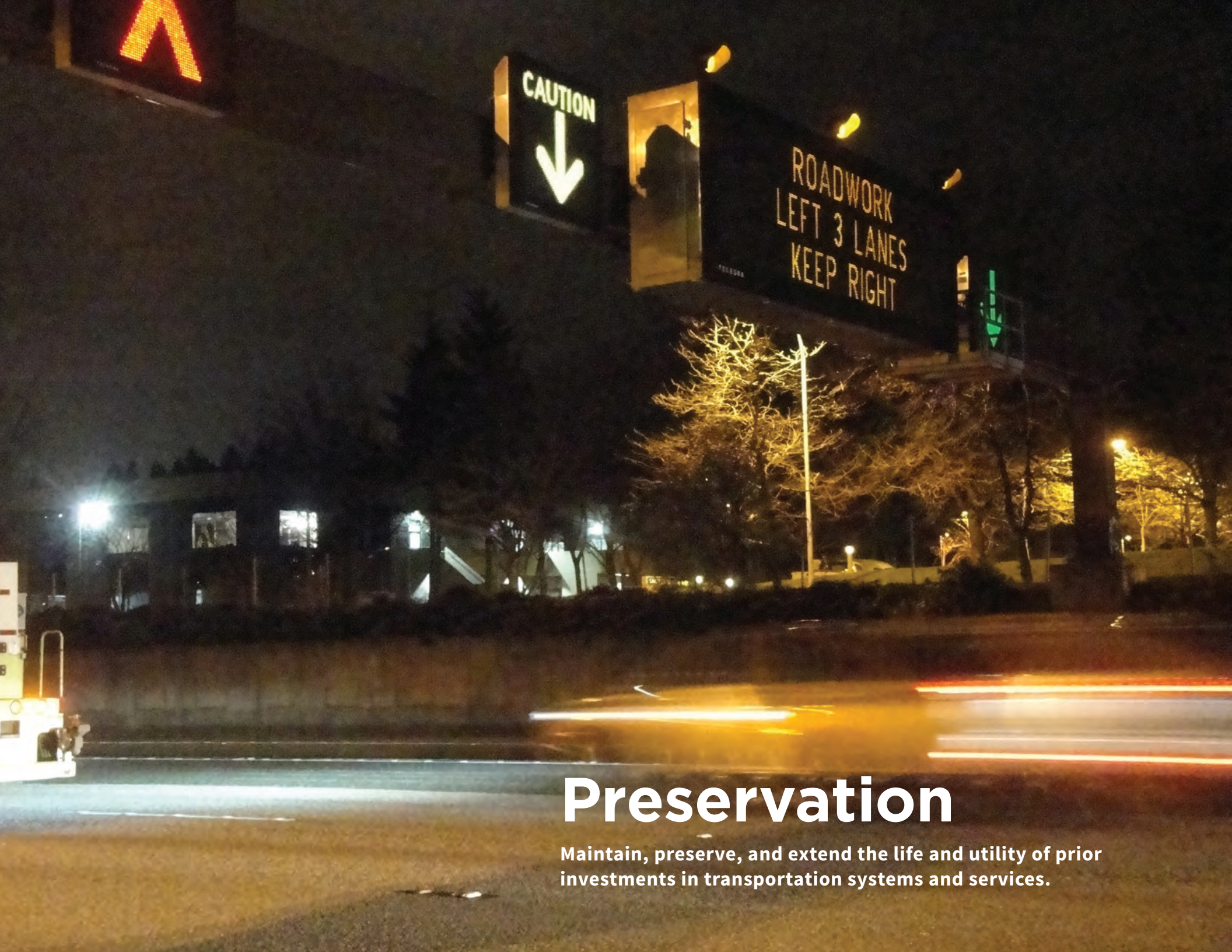
Long-Term Strategies

3. ***Increase the economic resilience of border-to-border freight corridors and the capacity of this freight network to recover rapidly after major system disruptions.*** A handful of major corridors support most of the intermodal freight transportation for Washington's trade dependent economy, including I-5, I-90, the Burlington Northern Santa Fe railroad, and the Columbia-Snake River strategic waterway. These corridors not only move the most freight but also provide essential connections between the marine highway system and major ports, industrial and distribution centers, and the rest of the state's freight system. If mobility on any of these mission-critical corridors is disrupted it is felt throughout the state, as when I-5 was closed in Chehalis for three full days in 2007 due to flooding.
4. ***Pursue innovative strategies to maintain the economic viability of rural regional, community, local, and general use airports.*** Many of our smaller rural airports face challenges in raising revenue and financial support to maintain their facilities and operations. Rural airports make it possible for knowledge workers and small manufactures to locate in rural Washington but meet clients or ship products anywhere on the west coast in one day. Additionally, the airports are critical for emergency response, for instance deploying wildland fire fighting crews or providing medical air-lift transportation. Rural airports also provide important air cargo service for local agriculture and

support aerospace manufacturing. New approaches are needed to ensure these vital facilities are available and in useful condition to support firefighting, emergency response, and emergency relief efforts in the event of major disruptions and support rural economic competitiveness.

5. ***Support the state's economic competitiveness in international trade by helping to ensure Washington's ports are "big ship ready"—in the water and on land.*** With completion of the Panama Canal expansion in 2016, global maritime trade entered a new era of mega-ships. To stay competitive in international shipping, Washington's ports need to accommodate these larger ships, which are wider and have a deeper draft than the last generation of ocean-going vessels. In addition to waterway infrastructure—longer berths, deeper waterways, and larger cranes—larger ships require improved landside road, rail, and highway infrastructure that can move more goods faster with seamless intermodal transfers. Land constraints at Puget Sound ports may necessitate designation of an inland port to augment landside capacity.

Can transportation investments help rebalance the excess demand for housing and jobs in the central Puget Sound region into less congested urban areas elsewhere by increasing system connectivity and freight access to those areas? That question surfaced during ***2040 and Beyond*** background discussions. It reflects the fact that there are urban centers on the I-5 corridor and elsewhere with additional capacity for growth, consistent with adopted plans. They may lack a connection or intermodal facility needed to attract growth and grow local jobs in close proximity to existing, affordable housing. Dispersing somewhat the concentration of activity to make more effective use of infrastructure along the I-5 corridor can relieve pressure on over-burdened facilities and stimulate economic opportunity in new markets. This isn't about creating new urban areas but making better use of the ones that exist. Transportation investments can not only help improve mobility but they can also help stimulate desired economic effects.



Preservation

Maintain, preserve, and extend the life and utility of prior investments in transportation systems and services.

Preservation

Why This Is Important: Preservation is essential. If we can't afford to take care of what we've already built, we can't afford to rebuild it or expand it. Preservation and maintenance are the foundation of good asset management for every single mode of travel, not just pavement and bridges. Transit systems, ferries and terminals, traffic management systems, marine terminals, airports, railways, drainage culverts and stormwater systems, sidewalks, and more—protecting our existing investments is the single most cost-effective thing we can do to ensure our transportation system continues to meet our needs today and in the future.

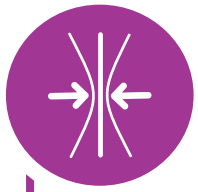
Four Policies that Support the Statewide Preservation Goal:

1. Make preservation and asset management of the existing state and local transportation network a funding priority and work to reduce the backlog of deferred infrastructure maintenance.
2. Support optimal asset management strategies that keep life-cycle costs as low as possible, including pavement and bridge preservation, ferry vessels and terminal infrastructure preservation, transit system and infrastructure preservation, and technology infrastructure supporting traffic management and operations systems.
3. Promote systemic and cost-effective preservation of essential infrastructure outside the control of local or state transportation agencies, such as river locks and barges, marine terminals, railroads and trestles, and airports.
4. Work to eliminate activities or practices that reduce the integrity of the existing transportation system or which increase life-cycle costs.

Cross Cutting Ideas

TECHNOLOGY

Innovations in construction materials and techniques, such as self-healing concrete and 3-D printed infrastructure, herald significant changes for maintenance and preservation practices in the future. Meanwhile, rapid advances in the development and deployment of drone technology and embedded sensors are creating safe and cost-effective means of conducting bridge inspections and monitoring the physical condition of infrastructure without relying on more destructive or costly techniques. Efforts to disseminate best practices and lessons learned as new techniques are implemented will expand the knowledge base of professionals across the state and help local and state agencies navigate new legal and security frontiers.



RESILIENCE

The ability of our transportation system to measure up in a disaster and support rapid response and recovery efforts depends in large measure on the state of the system before the disaster. If we are unable to effectively maintain our resources on an ongoing basis we need to consider how that will impact our overall system resiliency in times of stress, and plan accordingly.

FUNDING

An increase in programmatic funding for system preservation is needed for all elements of the transportation system. Though they are rarely the subject of ribbon-cutting ceremonies, preservation projects return tremendous value to the tax-paying public in terms of lower life-cycle costs, reduced repair and replacement expenses, avoidable system failures and the associated disruptions, and increased system reliability.

Recommendations to Support System Preservation Statewide:

Near-Term Strategies

1. ***Increase revenues dedicated to all aspects of maintenance and preservation of the transportation system statewide.*** Agencies responsible for operating and maintaining the transportation system struggle to find the resources to keep life cycle costs low through effective system maintenance and preservation. Deferred maintenance means that ferries don't last sixty years as planned, and buses experience increased breakdowns. It can mean spending eight times as much to reconstruct roadways as it would have cost to perform optimal pavement management. WSDOT's highway system, which makes up just 11 percent of total lane miles in the state[21], receives about 55 percent of the annual revenues needed for preservation[22]. Multiply that across the remaining 89 percent of roadways, along with transit, ferries, non-motorized facilities, rail, maritime, and aviation systems, and we're looking at a preservation deficit that we can't afford, in terms of costs or system disruptions. New revenue dedicated to preservation and maintenance is needed.

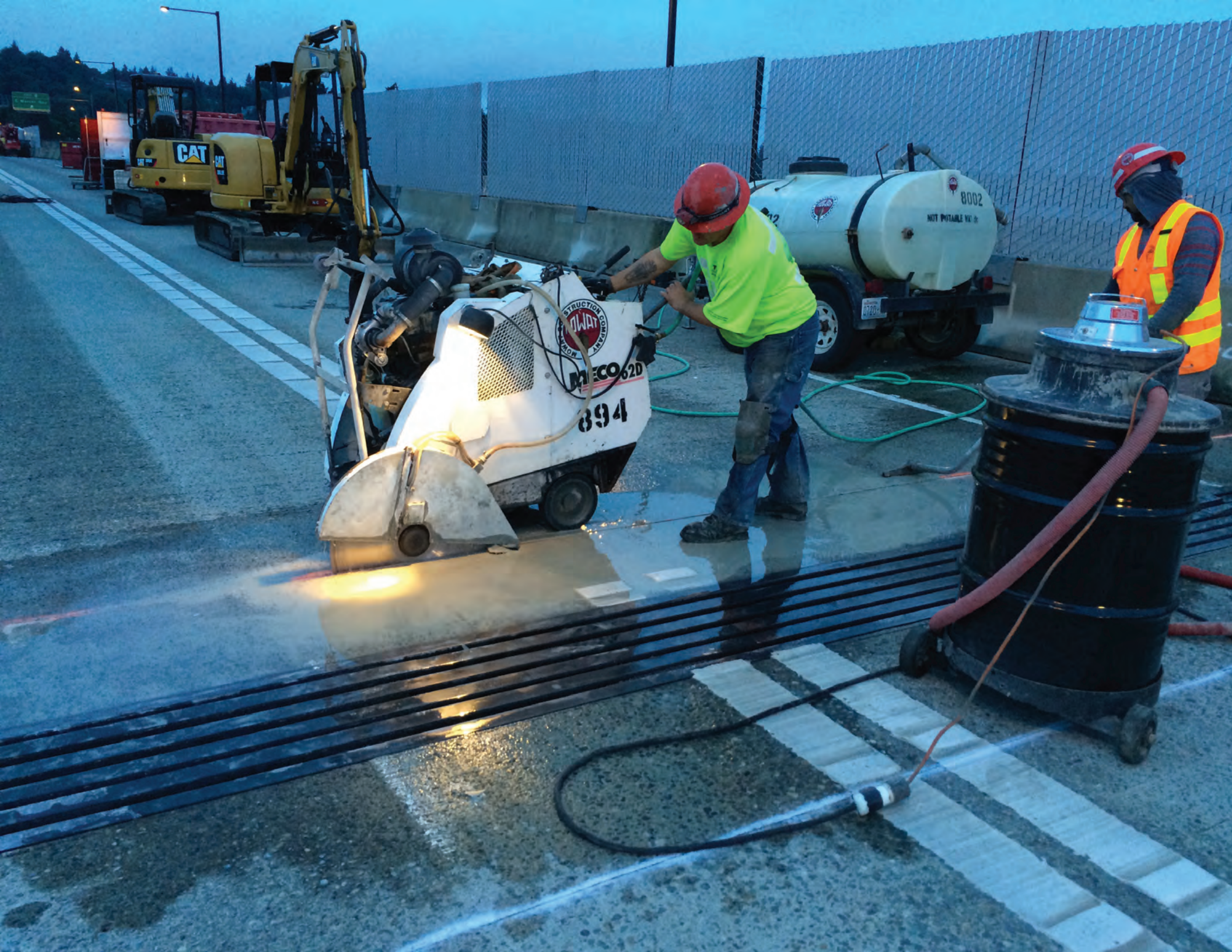
2. ***Prohibit the legal use of studded snow tires on public roadways within five years.*** It is estimated that studded tires cause an estimated $20 to $29 million in damage to Washington's highways annually[23], and that does not include damage to local streets and roads. Tires with metal studs have been banned in more than a dozen states. Studies show all weather tires perform better than studded tires in the vast majority of winter driving conditions because they have better contact with the road surface, except when driving on solid ice. Costco quit selling studded tires 10 years ago because they are not as safe as all-weather tires and they cause so much roadway damage. The studded tire fee of $5, implemented in 2016 on the sale of every studded tire in Washington, covers only a small fraction of the cost of damages they cause to public roads and highways.

3. ***Reduce unnecessary permitting delays, especially on preservation and maintenance projects where the potential for environmental impact is minimal.*** Permitting basic preservation and maintenance of existing facilities, as well as in-kind replacement in some cases, should not take years. Guidance on programmatic Categorical Exclusions—what qualifies for Categorical Exclusion and how to document the process to ensure a streamlined process—help reduce the time for environmental permitting on low-risk projects. This makes them more cost-efficient and allow for faster implementation. It also frees up resource agency capacity to focus on more impactful or complex environmental reviews.

Though we don't often think of travel demand management (TDM) as part of an effective system preservation program, the two work in concert. An effective TDM program is one that helps people to travel more efficiently by changing mode of travel or time of travel, or possibly even eliminating the need to travel altogether. Even small changes in travel demand during peak periods can alleviate chronic delays, reducing the need for costly system expansion and the ongoing preservation it will require. In this way an effective TDM program is also an effective preservation strategy.

Long-Term Strategy

4. ***Ensure any necessary decommissioning of infrastructure or services due to inadequate preservation or operations funding is done in a way that minimizes disruptions for the traveling public.*** Chronic underfunding of system preservation needs means that transportation agencies must be prepared for the possible need to decommission transportation assets or services that can no longer be maintained in a safe and reliable manner. Are they prepared? The need to decommission facilities can affect any agency without the means to adequately maintain its system in its present condition, from roads and highways to transit service to Transportation System Management and Operations (TSMO) infrastructure, airports, railroads, and trails. Guidance may be needed on how to develop a rational, evidence-based strategy for decommissioning elements of the transportation system.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Safety

Provide for and improve the safety and security of transportation customers and the transportation system.

Safety

Why This Is Important: No fatality is acceptable. We design, build, operate, and manage our transportation system with safety in mind—safety for all users of that system as well as for those who operate and work on the system. Making travel safer means thinking comprehensively about how different elements of the transportation system intersect, such as road-rail conflicts that can occur at at-grade intersections, or the ways that pedestrians get to and from transit stops. It also means thinking about diverse factors such as community design, Complete Streets, and freight corridor standards as important inputs to a safer transportation system for all travelers. Target Zero provides a good foundation but it's up to each of us to make the goal of zero fatalities or serious injuries a reality.

Four Policies that Support the Statewide Safety Goal:

1. Continue the ongoing practice of integrating safety into infrastructure design and system operations for all modes of travel and work to ensure the safety of those who operate and maintain the transportation system.
2. Support Target Zero goals by encouraging an integrated, multi-disciplinary approach to system safety that includes engineering, enforcement, education, evaluation, and emergency response, and which harnesses emerging technologies as they are proven to reduce crash hazards.
3. Encourage inter-agency collaboration at all levels of government as well as cooperation between public and private sectors to increase emergency preparedness and response capabilities and reduce system vulnerabilities and disruptions.
4. Promote the role of the built environment and community design in reducing risk exposure and the severity of traffic-related crashes, especially for non-motorized travelers.

Cross Cutting Ideas

TECHNOLOGY

New technologies in the transportation sector bring both benefits and challenges in relation to safety. Automated vehicles have potential to improve occupant safety by removing the element of human error which the National Highway Traffic Safety Administration estimates to be the cause of 94 percent of crashes. At the same time, these technologies raise questions about potential safety concerns for pedestrians and cyclists as well as questions regarding cybersecurity and privacy. Other innovative tech applications are using "smart signs" to warn motorists of cyclists or pedestrians ahead, roadway sensors to predict the presence of black ice, and cameras to reduce blind spots for transit and truck drivers.

RESILIENCE

Many of the same partnerships and strategies that increase system resilience support ongoing day-to-day efforts to improve system safety and security, and coordinated incident response. This is a mobility dividend returned on the investment of resources spent preparing for major disasters. At the same time, incorporating seismic retrofit and planning for sea level rise when doing system repairs is cheaper than adding them later, and stretch limited funds available to harden existing infrastructure. Coordination and careful planning amongst diverse partners can help Washington be better prepared for the inevitable.

FUNDING

The *Target Zero Strategic Highway Safety Plan* offers a detailed blueprint to guide safety investments and efforts to improve traffic safety. It outlines data-driven emphasis areas and identifies effective strategies for reducing the factors that contribute to the majority of traffic fatalities and serious injuries. During the 2012-2014 time period, impairment was the top contributing factor in traffic fatalities, followed by lane departure and speeding. Target Zero notes that over 80 percent of all traffic fatalities involved at least one of these factors, and 20 percent involved all three. While the majority of factors contributing to traffic fatalities are related to human behavior, the majority of safety funding is for capital projects, not enforcement or education.

Recommendations to Support System Safety Statewide:

Near-Term Strategy

1. ***Increase revenues dedicated to transportation system safety education and enforcement activities.*** Communities across Washington have committed to eliminating fatal and serious injury crashes by 2030, as recommended by Target Zero, Washington's strategic highway safety plan. The Traffic Safety Commission identifies human behavior factors like distracted driving, speeding, and impairment as the overwhelming contributors to serious crashes, and identifies education and enforcement as effective counter-measures. Yet transportation safety funding is directed primarily at engineering and construction measures, not education or enforcement. Resources also must be directed at the leading contributors of fatality and serious injury crashes, which is human behavior.

Long-Term Strategies

2. ***Expand crash data reporting and analysis at the state and local level to provide an understanding of racial disparities in traffic safety in order to better target effective countermeasures.*** Crash data is used to understand how and where people are hurt or killed while traveling on Washington's streets, roads, and highways. Crash analysis accounts for the age and condition of vehicle operators and passengers, non-motorized victims, contributing factors, location, weather and lighting, and other factors like wildlife or work zone conditions but it typically does not report on race or ethnicity of those injured or killed. Research by the National Highway Traffic Safety Administration[24] found that, when compared to all causes of death, traffic crashes account for disproportionately large percentages of deaths among Native American and Hispanic populations. A June 2018 analysis by the Washington Traffic Safety Commission[25] found that American Indian/Alaska Native residents are four times more likely to die in a car crash than the population in general.

3. ***Ensure plans are in place to support the emergency evacuation needs of Washington's most vulnerable residents.*** Emergency disaster planning, such as for tsunamis or wildfires, offers useful information for people needing to flee a dangerous situation, but what about those who can't flee? This may be due to physical or mental limitations, limited economic means, age, or other factors. Being able to provide rapid response emergency evacuation for vulnerable populations takes some preparation among a wide range of partners including transit and paratransit agencies, law enforcement and first responders, community service organizations, and emergency management offices. Preparation ahead of time ensures that all of the pieces are in place when it's needed and that everyone is working from the same playbook. This includes requisite Memorandums of Understanding between applicable agencies and organizations to formalize roles, responsibilities, and communication channels.

4. ***Ensure the network of designated "lifeline facilities" necessary for rapid response and sustained recovery after a major seismic event considers the full range of modal resources available in Central and Eastern Washington.*** Preparing for a natural disaster with such profound impacts as a magnitude 9.0 earthquake requires a holistic, systems-wide view. The Resilient Washington Plan established the need to identify "seismic lifeline routes" which include the I-5 corridor from McChord air field at Joint Base Lewis-McChord in Lakewood to Paine Field in Everett, and between the I-5 corridor and the Grant County International Airport in Moses Lake. What additional roles will essential facilities such as rural general aviation airports, strategic waterways, international border crossings, and heavy haul freight corridors play in the response and recovery effort? Long-term recovery needs suggest that additional routes and facilities may be needed to augment the initial north-south and east-west route to support resource deployment, evacuation, access of heavy machinery, etc.


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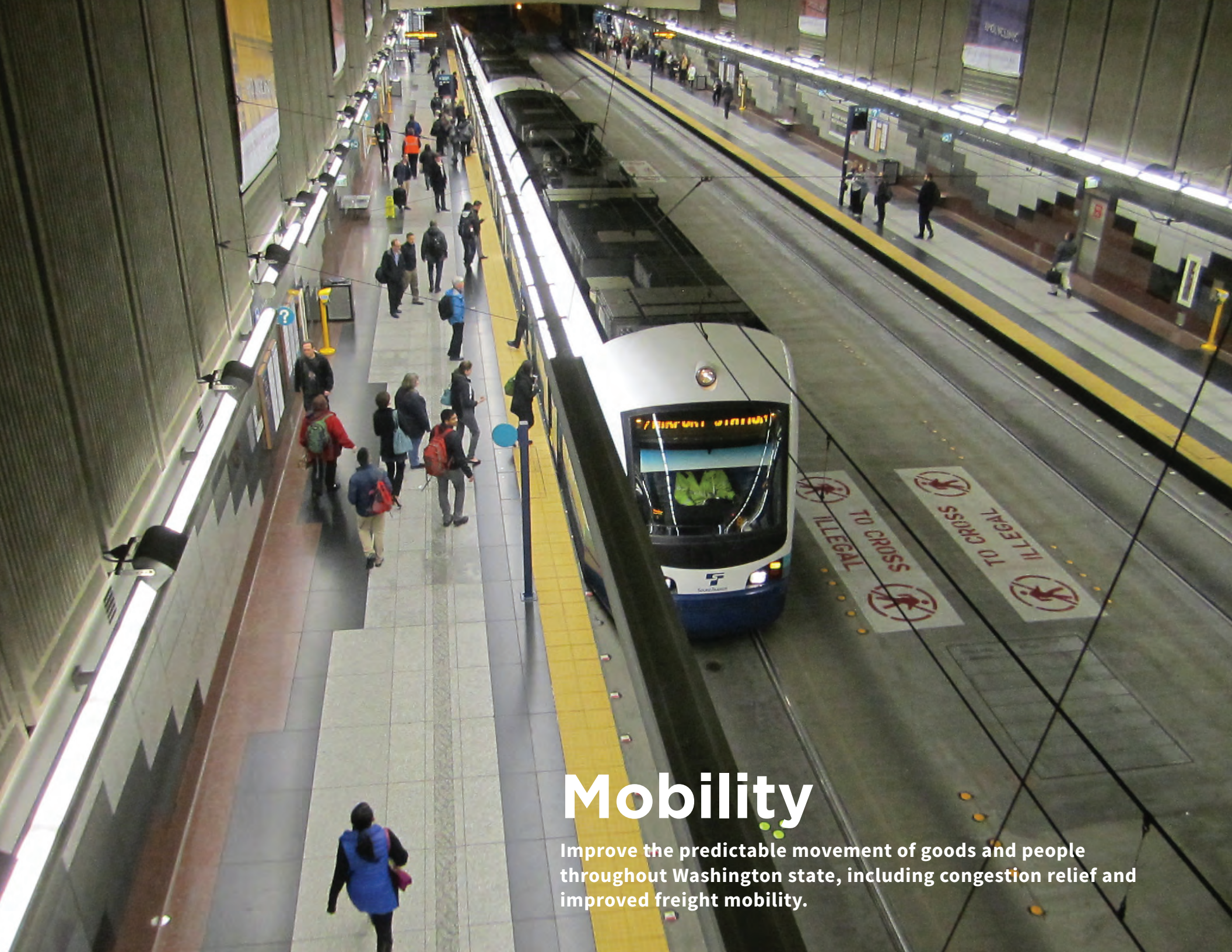


Mobility

Improve the predictable movement of goods and people throughout Washington state, including congestion relief and improved freight mobility.

Mobility

Why This Is Important: Predictable, reliable travel choices underpin a strong economy and healthy communities. The biggest challenge to this is chronic congestion, compounded by incomplete or inefficient multimodal systems. Transportation system management and operations can improve efficiency throughout the system. But it is also necessary to identify and address infrastructure chokepoints and bottlenecks that obstruct freight mobility and reliable commuter travel, both of which are central to economic competitiveness. Strategic multimodal system expansion coordinated with transportation-efficient land use policies, effective system management and operations, multimodal integration, practical solutions, demand management, and emerging technologies work together to deliver maximum mobility benefit from the statewide transportation system.

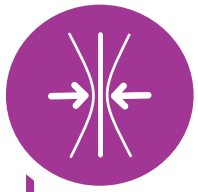
Four Policies that Support the Statewide Mobility Goal:

1. Support efforts to increase reliable multimodal travel for people and goods in communities across the state, recognizing that the diverse nature of places, needs, and opportunities statewide require equally diverse strategies applicable to those communities.
2. Promote innovative, practical strategies and strategic system expansion that maximizes person throughput and freight throughput on our urban corridors, minimizes travel delay for people and goods everywhere, and increases trip reliability across modes and across jurisdictional borders.
3. Monitor and respond to 21st century changes in demographics, transportation technologies, and lifestyle preferences when evaluating and prioritizing transportation system needs and investments to make over the next 20 years.
4. Work to ensure that all people have access to their daily needs with dignity and independence, regardless of their ability or income and without discrimination based on race or other identity.

Cross Cutting Ideas

TECHNOLOGY

Automated vehicles will change the way people and goods move around Washington state and between Washington and the rest of the world. A collaborative, cooperative approach will help ensure that automation and shared mobility increase system efficiency and minimize infrastructure costs while supporting societal goals related to equity, growth management, and economic vitality.



RESILIENCE

Strategic resiliency starts with building a strong multimodal system, which creates important redundancy. Strategic resiliency planning entails prioritizing transportation system elements to be restored in the event of a natural disaster, identifying which parts of the network and which systems will be brought back on line in priority order. Preparation for prolonged self-sufficiency in outlying areas requires proactive coordination with local and regional partners and service providers.

FUNDING

We have to be strategic in how we fund mobility, targeting resources where they generate maximum benefit for system performance. We may need to recalibrate some of our expectations about system performance as we sharpen our focus on ways to improve operational efficiency and make targeted capacity investments. Fresh thinking about user-based fees, innovative public-private partnerships, and growing more transportation-efficient communities must all be part of our strategy for paying for mobility.

Recommendations to Support Multimodal Mobility Statewide:

Near-Term Strategies

1. ***Revise statutory policies linking transportation and land use as they relate to urban congestion, informed by findings of the William D. Ruckelshaus Center's "Roadmap to Washington's Future" project and augmented with additional research where necessary.*** At it's passage in 1990 and with later revisions, the Growth Management Act included provisions to ensure that appropriate infrastructure and services will be provided concurrent with new development. Over the last 25 years our thinking has evolved about how system performance is measured and in turn, what that means for integrated transportation-land use decision making. Intractable congestion on some of Washington's most urban corridors raises questions as to whether concurrency, as defined in Chapter 36.70A RCW, can be applied more effectively to manage growth. This may include more multimodal mechanisms in some areas, strategies to redistribute growth to other areas with sufficient capacity to accommodate it, or other measures. The Ruckelshaus "Roadmap to Washington's Future" project is expected to identify additions, revisions, or clarifications to the GMA framework of laws, institutions, and policies needed to support local jurisdictions' ability to manage growth. A refresh of earlier research can fill in analysis gaps in the Ruckelshaus work. In the meantime, cities, counties, RTPOs, and WSDOT should continue to engage in efforts to identify innovative practices that make concurrency an effective growth management tool for the 21st century.
2. ***Ensure management of transportation system operations is a front-line strategy for highway and roadway system improvements, ranging from passive operations strategies in less congested corridors to more active strategies for managing demand and operations in constrained urban corridors.*** WSDOT's Practical Solutions approach promotes the use of Transportation

System Management and Operations (TSMO) to improve operating efficiency and safety before considering strategic system expansion. Practical solutions support the right investment in the right location at the right time. Continuing education and engagement with engineers and project managers, planners, local and regional policy makers, and others is needed to ensure its acceptance and successful integration into ongoing practices. Beyond TSMO, other important strategies include adequate park-and-ride facilities that support seamless intermodal connections, and an array of Travel Demand Management measures that reduce overall need for single-occupancy vehicle travel.

3. ***Adequately plan for and provide first- and last-mile access as a part of regional and statewide mobility strategies to support transit and freight transport.*** A robust transit system or intermodal freight system can deliver people and goods efficiently—assuming people and goods can get to or from those systems. The notion of first- and last-mile access refers to the first and last legs of these transit and freight trips. A complete trip—from origin to destination—typically involves one or more connections at either end in addition to what may be the longest trip segment in the middle. This is an important aspect of transit and freight trips, and can make the difference between efficient and inefficient service. Emerging technologies are creating new ways for shippers, transit agencies, and planners to think about and accommodate these essential connections efficiently and reliably.

4. ***Promote development of a seamless, statewide transit fare system with interoperability between public transit, ferry systems, and mobility services providers across the state.*** Figuring out how to pay for transit when transferring between systems can be confusing and act as a deterrent to wider use of transit. A universal fare payment system for Washington's transit agencies would support seamless service connections, reduce barriers to transit access and make transit a more convenient travel option for more people. While there are many benefits of this in the Puget Sound region, where numerous "outside" transit agencies connect with ORCA agencies in central Puget Sound, it is also important in highly rural areas where passengers may need to rely on two or more transit providers to make long-distance trips. New cloud-based, open-source platforms provide an opportunity to extend the ORCA universal pass concept in an affordable way to include the rest of the state's transit system.

Long-Term Strategies

5. ***Establish a Smart Mobility Center to ensure the successful introduction and integration of 21st century technology and innovation in Washington State.*** The rapid pace of technological change and adoption of innovative transportation practices by public and private sectors is generating a vast amount of experience, insights, and best practices. A Smart Mobility Center would harness this information in a multi-disciplinary, cross-functional setting to amplify the resulting knowledge base, forge advances in pioneering strategies, identify quick-response research needs, and nurture new partnerships and collaborations. A smart mobility center would promote multi-sector engagement and collaboration to ensure successful integration of new transportation technologies that benefit Washington. Such a center could provide critical guidance on the use and security of Big Data, how to manage bike and e-scooter sharing in crowded urban environments, data-sharing with mobility service providers, and best practices and protocols for introducing new technologies in light of our other GMA and multimodal, safety, efficiency, and equity objectives.


RESERVED
PARKING
FOLLOW
YOUR
DESTINY

Environment and Health

Enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment.

Environment and Health

Why This Is Important: Transportation directly impacts the environment. Often this results in negative impacts, but not always. Environmentally responsible development decisions, infrastructure design, and transportation investments minimize transportation impacts on the natural and built environment and reduce resource consumption and greenhouse gas emissions. Removal of fish passage barriers is an important example of current practices that retrofit infrastructure built in earlier eras, replacing barriers with environmentally appropriate designs. Transportation investments can also improve community health, mobility independence, and social equity for generations to come.

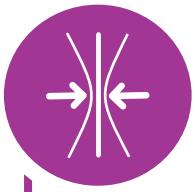
Four Policies that Support the Statewide Environment and Health Goal:

1. Work to accelerate availability of and demand for clean transportation energy sources across all sectors while reducing growth in demand for energy sources based on fossil fuels.
2. Encourage the design and development of communities that make walking and biking more viable for more people and increase opportunities for active travel for all ages.
3. Work to avoid highly sensitive environments for transportation infrastructure, minimize impacts where it is unavoidable, and continue to make progress on retrofitting outdated infrastructure to lessen existing impacts on fish habitat and other sensitive environments.
4. Promote practical solutions, transportation-efficient community design, and context sensitive strategies that effectively integrate transportation into the unique fabric of individual communities and environments, working to enhance overall quality of life and sense of place while improving mobility and access.

Cross Cutting Ideas

TECHNOLOGY

The same auto manufacturers working to bring connected and autonomous vehicles to the market are moving away from internal combustion engines, consistent with broader environmental objectives related to greenhouse gas emissions and air quality.



RESILIENCE

A built environment that offers a range of viable and interconnected travel options will be able to respond and recover faster after a natural disaster or other disruption than one that is solely dependent on a single mode of travel, which increases community resiliency.

FUNDING

Years of research confirm the public health benefits of active travel modes like walking and biking. Organizations like the Centers for Disease Control and Prevention[26] and the National Institutes of Health[27] , among others, have long advocated for Americans to increase physical activity to reduce avoidable chronic conditions associated with inactivity. Greater consideration of health impacts in the criteria used to award transportation funding can help ensure that transportation investments are supporting broader societal health objectives.

Recommendations to Support Environment and Health Statewide:

Near-Term Strategies

1. ***Ensure those involved in the siting of schools and other public facilities explicitly include transit, walk, and bike access in their decision-making process.*** Many of the people who visit public buildings do not own personal vehicles, whether they are children, seniors, people with disabilities, or low-income community members. With that in mind, it is important that public agencies strive to maximize safe and convenient multimodal access whenever public funds are involved. Not only is good site selection critical to provide adequate access for all, location decisions also have building and site design implications. For instance, if a building is in a place that is exclusively accessible by car, the parking lot will need to be sized accordingly, increasing the impervious surface area and stormwater runoff.

2. ***Explore ways for transit and state agencies to collaborate more effectively with land developers to create efficient mixed-use centers in the vicinity of multimodal transportation hubs.*** Park-and-ride lots and multimodal transportation hubs are places with great potential to support more mixed-use development that in turn generates demand for efficient transit, non-motorized, and rideshare travel. Housing located on-site supports affordability objectives since parking requirements can be reduced, for the developer, and travel costs are reduced for individuals. This also eliminates some of the first-mile/last-mile dilemma facing many transit riders. State law allows transit agencies to pursue appropriate development but few agencies have experience with this. Several projects have been completed that can provide insights for more transit agencies looking to create effective partnership opportunities for transportation-efficient development where travel can be provided most cost-effectively.

3. ***Provide guidance to cities, counties, and transit agencies on various business models and funding mechanisms that can enable them to plan for and stimulate an expansion of electric vehicle charging stations across Washington.*** In Washington, where over 90% of our energy comes from renewable sources, supporting the growing interest in electric vehicles is a benefit to the environment. Many local jurisdictions would like to reap the potential benefits associated with EV, including boosts to their tourist economy, reducing greenhouse gas emissions, and increasing energy independence, but most do not want to be in the business of owning and operating the necessary infrastructure. Implementation guidance can help ensure the success of more efforts to expand Washington's EV network.

4. ***Identify and dedicate sufficient resources necessary to remove critical fish barriers from transportation facilities.*** The ability of salmon and steelhead to swim upstream to their spawning grounds is vital to their recovery across Washington. In the past, transportation facilities were built without adequate attention to impacts on the natural environment. As a result, many roads and bridges were built that block essential fish passage and undermine recovery efforts. Increased funding in recent years has enabled removal of hundreds of fish passage barriers from state

highways and opened up over 1,000 miles of upstream habitat for fish resources, but the need dwarfs this effort. It is estimated that more than $2 billion is needed to fully comply with a federal court injunction and timeline to address fish barriers.

Long-Term Strategy

5. ***Incentivize the use of clean technology and energy efficiency in the freight sector.*** The freight industry is interested in using clean energy if it is cost effective. State incentives for freight, comparable to those provided for passenger vehicles, can increase the use of clean energy, generating compounding environmental benefits for the state. For instance, an increase in alternative fuel usage would reduce the risk of oil spills in the marine environment. Additionally, new load-matching technology companies can help to reduce the miles driven with empty loads. Encouraging load-efficiency improves overall capacity and fuel consumption.


WEST COAST
ELECTRIC
HIGHWAY
SEATTLE
WASHINGTON
WATTFUN
STADIUM NISSAN

Stewardship

Continuously improve the quality, effectiveness, and efficiency of the transportation system.

Stewardship

Why This Is Important: There never has been enough money to do everything we want and need to do with our transportation system. That is unlikely to change. As stewards of the public's finite resources, we must make difficult near-term decisions, manage our growth, and invest strategically with the long view in mind to get the most benefit from our transportation system today and in the future. This includes working to ensure fair and equitable mobility choices for all people.

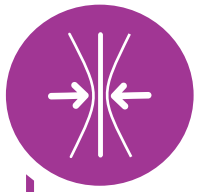
Four Policies that Support the Statewide Stewardship Goal:

1. Align investments with desired performance outcomes to get the greatest mobility and safety benefit from existing infrastructure and services at the least cost to the traveling public, which may require revisiting existing funding programs to better align with the kinds of projects that offer cost-effective solutions.
2. Provide the training, skills assessment, and succession planning needed to ensure our workforce has the knowledge needed to manage and maintain a 21st century transportation system, and ensure continuity of operations during this transformative transition period.
3. Introduce new practices or technologies when proven that they can enhance system efficiency, reduce crash risks for the traveling public or industry, increase the cost-effectiveness of system preservation, or reduce life-cycle costs.
4. Support inclusive, equitable planning that considers the full range of mobility needs and communities served by transportation, and more fully integrates transportation and land use decision-making at all levels of government.

Cross Cutting Ideas

TECHNOLOGY

Technological advances afford us the opportunity to better manage demand for limited transportation capacity than we've ever had before, reducing or postponing the need for costly general-purpose capacity increases. The 21st century transportation system is providing us with new and more efficient means of traveling than we've ever had before. We need to ensure the benefits of this new mobility are realized by all, and help to alleviate the gaps many face in accessing basic daily needs and opportunities.



RESILIENCE

Collaboration between state, regional, local, federal, tribal, and military partners to prioritize resiliency investments demonstrates public accountability and responsible use of limited resources.

FUNDING

Demonstrating public accountability in the use of scarce resources to maximize system performance is essential to obtaining public support for future investments and revenue increases.

Recommendations to Support Stewardship Statewide:

Near-Term Strategies

1. ***Catalogue the various transportation performance measures currently monitored by local, regional, and state agencies to determine what gaps and duplication, if any, exist in monitoring system performance.*** Performance measures help us understand if our investments are making progress in the desired direction. Dozens of performance measures are being collected and evaluated across all levels of government in Washington, some in response to state or federal mandates and others to meet local or regional objectives. Before determining whether additional measures are needed, it is useful to get an understanding of those measures that are currently being monitored to determine if there are gaps or duplication of measures.

2. ***Provide additional resources for RTPOs and MPOs to support local-regional-state collaboration and coordination.*** RTPOs and MPOs are at the forefront of local-regional-state collaboration and coordination, but the resources available for that work are stretched thin and have not increased over the years in the same way that their responsibilities have increased. A recurring theme in ***2040 and Beyond*** is that additional levels of coordination are needed to understand and manage the uncertainties and pace of change facing every region. Regional agencies will require additional resources to take on this additional work.

3. ***Develop a Transportation Equity Analysis toolkit for use in evaluating the benefits and impacts of transportation policies and investments on historically marginalized populations in Washington.*** Most planners and policy makers are sincerely interested in achieving equity objectives[28] but are unsure of where to begin. Uncertainty as to which impacts matter the most, how to measure them, and what populations are affected by different impacts can make it easy to avoid taking any steps. A toolkit that reflects the diversity of Washington's people, communities, and

transportation system needs can help local, regional, and state transportation agencies begin the process of understanding disparities so that meaningful progress can be made in addressing them.

Long-Term Strategies

4. ***Establish person-throughput and freight-throughput objectives to evaluate level of service on congested highways and arterials.*** Measures of system performance need to look at how efficiently the highway network is being used, not just how much it is being used. Establishing person-throughput standards to evaluate level of service rewards operational strategies that maximize system efficiency, and promotes multimodal mobility. In the same way, freight-throughput recognizes the important role of trade and freight mobility to the state economy. Aligning our definition of highway performance with broader mobility objectives helps us to make the best use of limited resources.

5. ***Support efforts to improve consistency of statewide forecast inputs used in MPO and RTPO models.*** Regional traffic models rely on locally adopted land use plans and growth assumptions but those regional forecasts are not suited for developing forecasted growth rates for traffic on Highways of Statewide Significance. These major facilities support region-to-region and interstate travel. Guidance from the state as to assumptions about forecasted growth on Highways of Statewide Significance, long-distance freight flows, and interregional commuter patterns would support greater consistency between regional forecasts and increase WSDOT's ability to rely on regional models to support bigger state-level analyses. In addition, as shared and automated mobility technologies become more prevalent, it will be useful to have agreed-upon modeling assumptions regarding changes in operational capacity and throughput.

Equity and Transportation

Transportation is essential for healthy, thriving communities. Safe, reliable, affordable transportation opens doors to economic and social opportunities for many people. However, not all people have access to safe, reliable, affordable transportation. Equity refers to the distribution of impacts across race and economic status—benefits and costs—and whether that distribution is fair. Transportation equity is focused on transportation system impacts in an effort to understand where costs are, in terms of monetary or other impacts, unfairly distributed. It reflects the input of an inclusive process involving the people who will be affected. This is the starting point for transportation decisions and investments that create a more just system that works for all.

2040 and Beyond introduces transportation equity as a Stewardship concern. Continuous improvement in the quality, effectiveness, and efficiency of the transportation system will only be successful if those benefits are fairly distributed and do not contribute to ever widening economic disparity. This means the environmental and physical impacts of that system must not disproportionately affect some segments of our communities more than others.

This plan acknowledges that much work is needed to better define what transportation equity means for a statewide policy plan, just as work is needed to define and apply transportation equity to planning and project development in regions and communities across the state. There is not a single answer, nor is there an easy answer.

The Future of Funding

The Commission meets regularly with elected officials, staff, and business and community leaders in meetings throughout the state. The single message heard most often—in communities large and small, rural and urban—is that more revenue is needed to take care of basic transportation system needs. Not just more revenue, but more predictable, stable revenue that keeps pace with inflation and allows communities to better manage their transportation assets.

For decades, fuel taxes have been the primary source of roadway funds for local and state agencies. This made sense in many regards since fuel taxes related to highway and roadway use. Historically, the more people traveled, the more they paid and the more revenues were generated to support ongoing transportation needs. For decades, fuel tax revenues were fairly stable, predictable, and inexpensive to administer.

That model has eroded.

Increasing fuel efficiency and adoption of electric vehicle technology—both of which are good things—reduce gas tax revenues. In addition, the federal government's share of funding for transportation has declined sharply over the last 25 years, in part because the federal gas tax of 14.4 cents per gallon is the same today as it was 25 years ago. Congress last increased the gas tax in 1993.

Responsibility for funding the nation's infrastructure is increasingly devolving to states and local government

At the state level, the vast majority of new state gas tax revenues generated over the last 15 years are earmarked for big projects, debt financing, and competitive programs; little of the 26.4 cents added to the state gas tax since 2003 goes back to counties and cities directly in the form of discretionary revenues. Instead, nearly 100 cities and counties have enacted local option taxes to augment state funds available for local projects and programs.

So what does the future of transportation funding look like? The answer is, it's too soon to tell.

What we know is that it won't rely on gas tax revenues as it has in the past. It's likely to rely more on direct user fees, like tolls or mileage-based fees. The Road Usage Charge (RUC) pilot project underway in 2018 will provide useful insights into the practicality and fairness of a mileage-based fee replacement for the state gas tax. The pilot project will help us understand how a mileage-based road usage charge would work for different drivers in different parts of the state, and whether a charge such as this is a good way to pay for our transportation system needs in the future. Feedback from two thousand participants will help the Legislature determine if this is an equitable and sustainable way to fund transportation.

We expect there will be more opportunities for funding collaboration with the private sector, though we don't know yet all the forms that may take. We do know that new models of cooperation will accompany the new models of mobility that are emerging early in this century.

There are likely to be increased opportunities for regional coordination, too. RTPOs and MPOs are uniquely positioned to help Washington make the kind of adaptive, nimble investment decisions we'll have to make in the coming years. They already have in place the mechanisms for regional coordination and collaboration among relevant constituencies, they maintain the strategic long-range plans for their regions and facilitate regionally coordinated project reviews and prioritization informed by adopted land use plans. RTPOs and MPOs ensure consistency between local and regional objectives, as well as between regional and statewide objectives. Involving them more in state-level funding decisions will result in better state and local decisions.

With these uncertainties in mind, ***2040 and Beyond*** includes an array of practical recommendations to support our transportation funding needs.

Recommendations to Support Funding

Near-Term Strategies

1. ***Address the growing backlog of maintenance and preservation at state and local levels, prioritizing investments in the existing system before allocating funds to make it larger.*** Increased revenues dedicated to maintaining and preserving the existing transportation system are needed to keep life cycle costs as low as possible and avoid much costlier reconstruction or replacement projects. It is irresponsible to fund projects that add system capacity at the expense of needed maintenance and preservation of the existing system. This is a disconnect between established funding priorities and how we spend our limited transportation funds. Taking care of the existing system, protecting investments the public has already made in our transportation system – these are activities worthy of ribbon cutting ceremonies.
2. ***Establish alternative, sustainable revenues to meet statewide transportation needs, based on results of on-going research into road usage charging and other approaches.*** The Transportation Commission's Road Usage Charge (RUC) pilot project will provide useful insights as to the suitability of a user-fee based system in supporting ongoing system funding needs. Whether it is turning to this kind of a user-fee model or some alternative, Washington simply cannot continue to rely as it has on the gas tax as a viable long-term funding source for transportation. Identifying and implementing a reasonable, sustainable alternative revenue source underpins the rest of Washington's transportation objectives.
3. ***Support efforts to include non-federal revenues in the funds awarded to local agency grant applicants.*** When federal funds are used on some local agency projects, the effectiveness of this funding is constrained by administrative and reporting requirements that may increase costs disproportionately to the overall project costs. Because of the added administrative demands that come with federal dollars, many local agencies in Washington forgo or delay the project because they do not have the resources and expertise available to effectively manage their own federally funded projects, though they regularly manage their own local and state funded projects. The state should explore ways to diversify the revenue stream available to grant applicants, and reduce the challenges posed by federal funds, to help stretch limited resources and get city and county projects delivered more efficiently and cost-effectively.
4. ***Encourage more consultation between the legislature and RTPOs and MPOs to review legislative funding recommendations for consistency with established regional priorities prior to significant funding authorizations.*** As required by law, RTPOs and MPOs convene local and state transportation agencies across the state in an ongoing collaborative planning process to understand and address near-term and long-term mobility issues. Regional processes identify priority projects and programs to address those issues in a consistent and coordinated fashion. Active consultation with RTPOs and MPOs in the identification and evaluation of funding priorities as a part of statewide funding initiatives can ensure alignment between project investments and established funding priorities.

5. ***Remove the ten-year sunset clause associated with the voter-approved local option sales tax authorized for Transportation Benefit Districts (TBD).*** Local jurisdictions have two mechanisms for generating revenue using a TBD. One is a $20 - $40 vehicle license fee; this does not require voter approval and remains in effect indefinitely. The other is a 2/10 percent retail sales tax; this does require voter approval and is subject to a ten-year term limit. This puts more restrictions on the voter-approved tax than the fee that is not subject to voter approval. Local jurisdictions should have the authority to establish the duration of a TBD sales tax for transportation and let the voters to decide.
6. ***Identify a dedicated source of revenues to increase system resilience.*** The capacity for Washington to effectively respond and recover after a disaster will depend in large measure on how well our transportation system withstands the shock. The answer to that is going to depend on how we fund that system. Revenues dedicated to resiliency planning and implementation will support those response and recovery efforts that are in our future.

Long-Term Strategies

7. ***Encourage innovative public-private partnership (P3) funding opportunities to achieve public objectives.*** New 21st century partnership models are arising that can enhance ongoing coordination and collaboration between government and the business community. Governments need to explore innovative arrangements between public sector, private sector, and not-for-profit organizations to accomplish public goals. For example, a non-traditional public-private partnership with manufacturers of highly automated vehicles might accomplish low-cost, mutually beneficial roadway maintenance and striping.
8. ***Identify and put forward a value-capture alternative to Tax Increment Financing to support public and public-private partnership financing of transportation infrastructure.*** Tax increment financing (TIF) is one of the most widely used economic development financing tools nationwide. It works by allowing local governments to capture the increase in property tax revenues generated by economic growth in a defined area —a process called "value-capture"—and using that additional increment of value as a revenue stream to help finance needed infrastructure. Washington state does not allow traditional TIF mechanisms and has in place some alternate mechanisms that enable some aspects, but not all, of a TIF mechanism.
9. ***Create an account for emergency relief funds that cities and counties can quickly access to repair and rebuild infrastructure damage due to natural events.*** Federal emergency relief funds are often slow to appear after a disaster, hindering efforts to repair damaged infrastructure quickly. Even relatively short transportation system disruptions can significantly affect business continuity, which has ripple effects throughout the community. Studies have shown that 30 percent of companies that experience catastrophic loss in a disaster fail within two years and another 29 percent shut down after this time[29] . As such, there is a need for a funding mechanism that allows cities and counties to respond in real time to make the necessary repairs—including temporary fixes—that keep people and goods moving during recovery.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On the Horizon

The name of this plan—***2040 and Beyond***—underscores the reality that there is no hard deadline when "the present" ends and "the future" begins. Long-range strategic plans such as this must, by necessity, consider the immediate world and what is on the near-term horizon in addition to the long-range perspective far in the future. Some things will take longer to materialize and others will take less time. Strategic policy plans such as this help us to keep the long-term perspective in mind even as we focus on immediate and near-term needs.

Once it would have been naïve to suggest that transportation and the future of mobility would radically transform over the course of 20 years. Today, all indications are that it would be naïve to suggest transportation and mobility in 2040 will remain as they are today.

The rise of new mobility options and service providers creates unique opportunities to integrate public and private sector objectives and missions in a coordinated effort to connect more people with more places and opportunities. Of course, care is needed to manage the risks of innovation but the potential rewards of innovation demand our full engagement.

Transformations in the way we pay for transportation and mobility are imminent, though we can't yet say what the new models will be. The transportation sector has foretold of the demise of traditional revenue sources for two decades or more; the current funding situation is not a surprise. Thanks to leadership at the legislative, state, regional, and local levels—and an electorate and business community that appreciates the need for a fully functioning, reliable, multimodal transportation system—Washington will be better prepared than most states to make the necessary adjustments and weather the inevitable turmoil that is bound to accompany a major shift in transportation revenues.

Transition to new revenue sources won't be the only turmoil on the way to the future. We are just beginning to grasp the magnitude of effort needed to prepare our transportation system for the stresses it will have to withstand in the decades ahead. From managing mobility to preserving infrastructure and designing for safety and resiliency, we face unprecedented demands for transportation resources, time, and talent that will be in short supply.

Tough Topics

We have some tough topics to address between now and 2040, topics that are bigger than any one transportation agency can address. Here are four that intersect all six of the legislative transportation goals, and will inform transportation discussions and decisions over the next several years.

Facilitating Trade and Travel across the Columbia River

The southbound Columbia River Bridge that connects Vancouver to Portland turned 60 years old in 2018. It is a relatively new span compared to the northbound bridge that connects Portland to Vancouver. That span was 100 years old in 2017. Replacing this vital economic link with new infrastructure is daunting in terms of scope, coordination, environmental mitigation, and cost, but those challenges pale next to the issues we face if this connection is severed.

- Fierce gridlock characterizes current highway and railroad traffic throughout the day, creating unacceptable impacts on both sides of the Columbia. Seismic failure of one or both bridges would create even more disruption, with impacts that would be felt across the state. This is the only interstate highway serving the nation's west coast, providing a land-based international trade route from Canada to Mexico. The existing I-205 corridor is incapable of replacing the interstate connectivity for freight and passenger transport.
- Neither of the two bridges is seismically sound. The river they cross is an essential part of the Snake-Columbia River waterway that supports our economy—collapse of either bridge will imperil critical navigation channels, with statewide economic impacts.
- Many of the smaller bridges over the Columbia are old and functionally obsolete.

Consequences of the no-action alternative are unacceptable. Despite the challenges, we must begin work to strengthen and improve this vital economic link over the Columbia River.

Limitations on Sea-Tac Airport Capacity

Sea-Tac Airport is Washington's busiest airport, serving almost 47 million passengers

annually and transporting 273.5 metric tons of commercial air cargo. Demand for both is growing. Passenger travel is expected to increase to 56 million people by 2027 with similar growth expected in air cargo. A major $2 billion effort is underway to modernize infrastructure and facilities that will increase efficiency and expand airport capacity to meet that demand. Despite these efforts, questions are mounting about the long-term implications for passenger and air cargo travel. Sea-Tac will reach its capacity limits well before 2040, and there isn't a plan in place that prepares for that eventuality.

Interest is growing in a long-term strategy that looks beyond 2027 to identify near- and long-term actions that ensure the state's ability to meet future commercial aviation capacity needs. For those familiar with the important economic role commercial aviation plays for a host of state industries—tourism, aerospace, electronics, manufacturing, agriculture, seafood, military—the sense of urgency is mounting. Major airport projects take many years to get approval and many more to complete.

The Joint Transportation Committee evaluated constraints on the state's air cargo capacity to determine if it's possible to provide relief for Sea-Tac Airport by expanding the air cargo markets of other regional airports[30] . A long-range aviation study by the Puget Sound Regional Council will provide clarity on what can be done at Sea-Tac to accommodate growth long term, and what must be accommodated in a different way somewhere else.

Reconciling Sea-Tac's commercial aviation capacity constraints will not be easy or inexpensive, and it will entail complicated discussions about the state's role in aviation. But, it is an essential consideration in support of statewide economic vitality objectives.

Improving Inter-regional Public Transportation

Dozens of coordinated, long-distance public transportation routes exist across Washington State connecting people with far-flung destinations. Some of these are associated with rural intercity bus service. Rural intercity bus service provides a critical link in a coordinated statewide network that connects rural residents to national bus services like Greyhound and NW Trailways, and to local transit services,

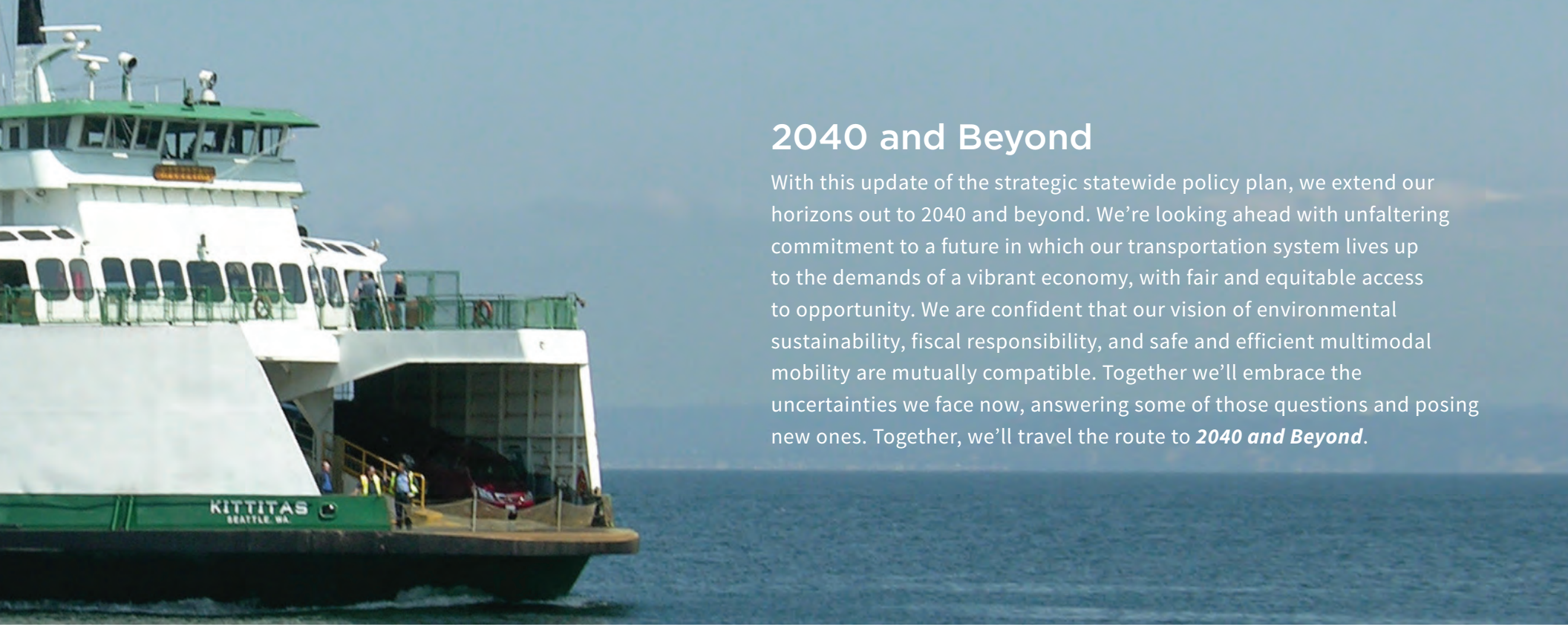
Amtrak train service, commercial airports and aeroporter services, and ferry terminals. In other areas, intercounty connector routes make it possible to for people to travel outside their local transit service area to reach distant cities. The inter-regional public transportation services these two types of long-distance transit service represent enable people to access tribal centers, colleges and universities, military bases, hospitals and major medical centers, correctional facilities, and commercial airports. It's a vital statewide service for older people in rural areas, for those living below the poverty line, and for travel without cars.

While it may be a vital service, it's not a convenient service for the traveling public. Typical trips involve tightly coordinated connections and numerous transfers, and they take a long time. Passengers must navigate different fare payment systems. Transit operating funds are available in two-year increments, undermining efforts to establish a sustainable service that the public comes to recognize as reliable. Recent changes to state grants may extend the funding for these services from two years to four years, which will help alleviate some of the funding uncertainty these agencies and their riders face.

Inter-regional public transportation plays an essential role in connecting Washington's communities. Leadership, coordination, and funding must come together to provide seamless, convenient, and reliable long-distance bus service to all the state's residents.

Rebuilding and Reinforcing the Puget Sound Ferry System

Washington State operates the largest ferry system in the nation and is one of the largest in the world, carrying over 24 million passengers a year. Truly part of a robust, marine highway, the Puget Sound ferry system is the only means of access for 27,000 residents of Vashon Island and the islands of San Juan County, and serves as a vital connection for over 300,000 residents and businesses of the Kitsap and Olympic



2040 and Beyond

With this update of the strategic statewide policy plan, we extend our horizons out to 2040 and beyond. We're looking ahead with unfaltering commitment to a future in which our transportation system lives up to the demands of a vibrant economy, with fair and equitable access to opportunity. We are confident that our vision of environmental sustainability, fiscal responsibility, and safe and efficient multimodal mobility are mutually compatible. Together we'll embrace the uncertainties we face now, answering some of those questions and posing new ones. Together, we'll travel the route to ***2040 and Beyond***.

peninsulas and Island County. Ferries are the state's top tourist attraction.

Puget Sound ferries face the same issues as the rest of the transportation system. Preservation has been deferred for years, with spin-off implications for reliability. Peak period demand exceeds capacity. Several ferry terminals will not withstand an earthquake or tsunami, undermining recovery efforts.

Washington State Ferries (WSF) addresses these challenges in its draft long-range plan, identifying the need for five additional vessels as soon as possible to stabilize the fleet. At least 10 more replacement vessels are needed by 2040. The WSF plan identifies ways to better manage demand with technology and management strategies, however, improving access and meeting growing demand will require more landside investments in terminals, overhead boarding for non-motorized passengers, and park-and-ride facilities that support intermodal activity. It also requires better multimodal connections provided by other partners.

Meanwhile, interest in passenger-only ferry service is growing. King County water taxi service between Seattle, West Seattle, and Vashon Island, and passenger-only ferry service operated by Kitsap Transit from Bremerton and Kingston to Seattle are examples of alternate service models that other communities point to as alternatives to congested highways or expensive car ferries.

Washington grew up with its Puget Sound ferry system. Parts of that system are aging and constrained, and it's expensive to maintain and expand. The future of our ferry system—and the critical connections it makes possible— depends on our ability to resolve some of our most perplexing funding challenges.

Endnotes

1 RCW 47.04.280

2 WTP 2035: Connecting Washington Communities for a Healthy and Prosperous Future. January 2015. https://washtransplan.com/

3 See the Transportation Commission's Road Usage Charge Pilot Project website for details on this study effort: https://waroadusagecharge.org/

4 For more information on the 2015 Connecting Washington funding package and links to information on earlier funding packages, see the WSDOT Connecting Washington web page: https://www.wsdot.wa.gov/construction-planning/funding/connecting-washington

5 ibid.

6 For comparisons between Washington's export / import trade sectors and those of the rest of the country, as well as the state's largest trading partners see Global Edge, a service of the Michigan State University: https://globaledge.msu.edu/states/washington/tradestats

7 Washington Council on International Trade: http://wcit.org/wp-content/uploads/2016/12/WAStateTradeStories-Booklet-11-30-16-1.pdf

8 For more on the definition of distressed areas and the current list of economically distressed counties see the Washington State Employment Security Department website: https://esd.wa.gov/labormarketinfo/distressed-areas

9 For more information on the distribution of economic opportunities across Washington state and measures of key benchmarks, see the Washington Roundtable's Unlocking Washington's Full Potential: A Framework for Diversified and Inclusive Economic Growth. http://www.waroundtable.com/wp-content/uploads/2018/01/UnlockingthePotentialWA.pdf

10 Affordable Housing Advisory Board, 2017 Affordable Housing Update. Report to the Legislature. http://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=Commerce-AHAB-annual-report-2018_0fe5c4e4-7c44-4032-845e-9cf53a41d18b.pdf

11 Traditional measures of housing affordability are that monthly housing costs should not consume more than 30% of monthly household budgets. A more complete estimate of housing plus travel costs suggest that the combined costs should take no more than 45% of monthly household budgets to be affordable. For more information on Housing+Travel costs to see information on housing affordability in different places in Washington, see: https://htaindex.cnt.org/

12 Growth Management Act legislation governing local planning is found in RCW 36.70A. A reader-friendly overview is available on the Municipal Research and Services Center website: http://mrsc.org/getdoc/37359eae-8748-4aaf-ae76-614123c0d6a4/Comprehensive-Planning-Growth-Management.aspx

13 For detailed information on state RTPO compliance requirements and other resources, see the Regional Transportation Planning page on WSDOT's website: https://wsdot.wa.gov/planning/Regional/Default.htm

14 For detailed information on federal metropolitan planning requirements and relationship to state RTPO requirements, see the Metropolitan Transportation Planning page on WSDOT's website: https://www.wsdot.wa.gov/planning/Metro/Default.htm

15 Including the Okanogan Council of Gevernments, or OCOG, the state's newest RTPO..

16 See the Washington Tribes website for more information on the 29 federally-recognized Indian tribes in Washington, their economic contributions to the state's economy, and ways that tribal governments are advancing the economic, social, and political lives of Indian peoples: https://www.washingtontribes.org/

17 From Representative Orcutt press release, January 22, 2018: file:///N:/Projects/0778%20Washington%20State%20Transportation%20Commission%20(WSTC)/0778.01%20WSTC%20WTP%20Update/Resources/Tech/Broadband/Orcutt%20bill%20would%20provide%20options%20to%20rural%20counties%20to%20bring%20broadband%20to%20underserved%20areas%20-%20Ed%20Orcutt.html

18 Background on resiliency and the role of transportation in Washington's ability to respond and recover after a major disaster are based on findings of the Governor's Resilient Washington Subcabinet: https://mil.wa.gov/emergency-management-division/resilient-washington-subcabinet

19 Resilient Washington Subcabinet Report – Findings and Recommendations. August 2017. https://mil.wa.gov/uploads/pdf/resilient-wa-subcabinet/rw-subcabinet-draft-reprt-with-appendices-9.22.17.pdf

20 For more explanation of intermodal drayage and why it's important to the freight transport discussion. https://www.containerport.com/what-is-drayage/

21 WSDOT Highway Performance Monitoring System, 2017 figures.

22 WSDOT 2016 data and stakeholder interviews

23 Going Places - 2017 Reflections and Recommendations. WA State Transportation Commission. http://wstc.wa.gov/documents/2018-0117-AnnualReport.pdf

24 Race and Ethnicity in Fatal Motor Vehicle Traffic Crashes 1999-2004. National Center for Statistics and Analysis, for the National Highway Traffic Safety Administration. May 2006. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/809956

25 Vehicle Deaths in the American Indian/Alaska Native Community. Washington Traffic Safety Commission. June 2018. http://smhttp.72879.nexcesscdn.net/807B2B0/wtsc/wp-content/uploads/dlm_uploads/2018/06/MV_Mortality_Native_American-06052018.pdf

26 Centers for Disease Control and Prevention, Transportation and Health. https://www.cdc.gov/healthyplaces/healthtopics/transportation/default.htm

27 National Institutes of Health – National Center for Biotechnology Information. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4609517/

28 Numerous resources exist on Transportation Equity. A balanced and objective primer that provides thorough explanations of the considerations and strategies an equity analysis might include is produced by the Victoria Transport Policy Institute. Evaluating Transportation Equity – Guidance for Incorporating Distributional Impacts in Transportation Planning. April 2018. http://www.vtpi.org/equity.pdf

29 Strauss-Wieder, Anne. Supply Chain Business Continuity – A Framework for Proactive Resiliency Planning and Operations. Statistic credited to research by John J. Brown, who directs risk management and supply chain and technical development for Coca-Cola. From the TR News, Transportation Research Board. September-October 2017.

30 This is an on-going study. Materials are available on the Joint Transportation Committee website: http://leg.wa.gov/JTC/Pages/aircargo.aspx

Appendix

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Glossary of Useful Terms, Concepts, and Acronyms

WTP 2040 and Beyond is full of terms that are specific to transportation, or common terms used in specific ways when thinking about transportation. This Glossary is a collection of terms found throughout the plan that may be unfamiliar to readers, or which merit clarification as to how they're used in this plan, including common acronyms for those terms.

Autonomous Vehicles | AV

An autonomous vehicle is one that can drive itself effectively in autopilot mode from a starting point to a predetermined destination using various in-vehicle technologies and sensors. Humans play a very limited role, if any, in the driving process. AVs include passenger vehicles, trucks, and transit vehicles as well as emerging vehicles designed for particular mobility functions like package deliveries (e.g. drones, robotic delivery devices). Automated vehicles are undergoing rapid technological advancements and generate widespread interest both for their potential benefits and their potential downsides or unintended consequences for system mobility.

Broadband

Broadband refers to a variety of techniques for delivering high-capacity data transmission. It typically means high-speed internet access that is "always on," as opposed to dial-up access, for example, DSL and 4G cellular service. While there are differing opinions as to whether broadband is actually the transportation system for information, there is no doubt that absent broadband access, few if any transportation technologies are available and opportunities to access services without having to travel are severely restricted. Lack of broadband access limits access to economic and social opportunities enjoyed in communities that do.

Capacity

Transportation capacity is a measure of how much throughput a system has during a certain amount of time, for example, an hour or a day. How we define system capacity is evolving for the first time in over half a century. Throughout the second half of the 20th century, the primary throughput of concern was the number of motor vehicles. The time period of greatest concern was the evening peak commute period – typically the "rush hour" in most communities but extending to many hours in big ones. Increasingly we're paying more attention to people throughput or freight throughput, not just vehicle throughput, especially in highly urban corridors. This aligns closer with our values about doing more with the infrastructure and services we have and getting maximum benefit out of our transportation investments. It lets us look at transit in a more balanced way, and better support the transportation-land use connection in so many of our communities. How throughput is defined and capacity is measured is central to any discussion about urban congestion, concurrency, level of service or LOS, system performance, and performance measures, and it has a big influence on what constitutes an effective strategy or project investment. WTP 2040 and Beyond recognizes that how we think about transportation system capacity is evolving. It will be different in the future than the way we think about it now and have thought about it historically. Unless indicated otherwise, the term "capacity" in this plan refers to system capacity with an emphasis on person throughput and freight throughput for situation-specific increments (e.g. hour or 12-hours).

Commute Trip Reduction | CTR

Commute Trip Reduction is an employer-based travel demand management program. Laws relating to commute trip reduction (CTR law) were adopted in 1991 and incorporated into the Washington Clean Air Act. The intent of the CTR law is to reduce automobile-related air pollution, traffic congestion, and energy use through employer-based programs that encourage the use of alternatives to the single-occupant vehicle traveling during peak traffic periods for the commute trip. Strategies such as these that encourage travelers to use the transportation system more efficiently are generally known as transportation demand management (TDM). In 2006, the Legislature amended the CTR law to make the program more efficient and effective.

Comprehensive Plan

The Growth Management Act is a state law that requires local agencies to develop and adopt long-range plans that guide growth and development to achieve community visions and agreed-upon goals and objectives. These perpetual plans are updated periodically. Most have been in place and working to shape community growth for over 20 years. Local Comprehensive Plans must establish adopted Level of Service standards for transportation and be consistent with the long-range Regional Transportation Plan; the Regional Transportation Plan in turn must be consistent with the local plans. This overlapping GMA consistency requirement ensures ongoing coordination between local and regional agencies.

Concurrency

Concurrency is one of the goals of the Growth Management Act. It refers to the timely provision of public facilities and services relative to when they are needed, typically “concurrent” with development. GMA directs special attention to concurrency for transportation. It requires that transportation improvements or strategies to accommodate development impacts need to be made concurrently with land development to maintain adopted Level of Service standards. Improvements or strategies need to be in place at the time of development, or a financial commitment is needed to complete the improvements or strategies within six years. Those Level of Service standards are established as part of the Comprehensive Plan, and are used to determine whether the impacts of a proposed development can be met through existing capacity and/or to decide what level of additional facilities will be required to meet LOS standards. Transportation is the only area of concurrency that specifies denial of development if LOS standards cannot be met. GMA grants local government great flexibility in how they define Level of Service and apply concurrency within their plans, regulations, and permit systems. Note that local jurisdictions cannot require developers to pay for improvement to correct existing deficiencies. Concurrency does not apply to Highways of Statewide Significance.

Congestion Pricing

Congestion pricing - sometimes called value pricing - is a way of harnessing the power of the market to reduce system inefficiencies that contribute to traffic congestion. Congestion pricing works by shifting discretionary rush hour highway travel to other transportation modes or to off-peak periods through pricing mechanisms. By removing a small fraction of the vehicles from a congested roadway (even as small as

5 percent), pricing enables the system to flow much more efficiently and move more people and vehicles through the same physical space. Similar variable charges have been successfully utilized in other industries - for example, airline tickets, cell phone rates, and electricity rates. The Federal Highway Administration finds there is a consensus among economists that congestion pricing represents the single most viable and sustainable approach to reducing traffic congestion. Although drivers unfamiliar with the concept initially have questions and concerns, surveys show that drivers more experienced with congestion pricing support it because it offers them a more reliable trip time than without it. Transit and ridesharing advocates appreciate the ability of congestion pricing to make transit and ridesharing more attractive. Congestion pricing can be applied through a variety of mechanisms. In Washington it is typically applied through variable rate tolls (dynamic tolling) on entire facilities, such as the SR 520 floating bridge, or on specified managed, Express Toll Lanes.

Connected Vehicles | CV

A connected vehicle is one that is equipped with Internet access, and usually also with a wireless local area network. This allows the car to share internet access with other devices both inside as well as outside the vehicle. This includes connectivity and information sharing between the vehicle and things like cell phones and tablets in the vehicle, and with other vehicles (vehicle-to-vehicle), with roadway infrastructure (vehicle-to-infrastructure), and with information systems in the cloud (vehicle-to-cloud). The vast majority of new vehicles come with standard with varying degrees of connectivity. Vehicle connectivity is undergoing rapid technological advancements and generates widespread interest both for the potential benefits and the potential downsides and unintended consequences for system mobility.

Demand Management

Demand management is a process to plan for and manage the demand for transportation capacity and services. See Travel Demand Management.

Dynamic Tolling

Dynamic tolling is a congestion pricing mechanism intended to maintain more reliable travel speeds and increase throughput, especially during peak periods of demand. Tolls are continually adjusted according to traffic conditions to maintain smooth traffic flows, with prices increasing as the tolled lane or facility is closer to full, and prices decreasing when the lane or facility is less full. The current price is displayed on electronic signs prior to the beginning of the tolled section. This system is more complex and less predictable than using a fixed-price table, but its flexibility helps to consistently maintain the optimal traffic flow.

Equity

Equity refers to the fairness with which benefits and costs are distributed. Transportation equity considerations focus largely on the intersection of community design and access to transportation services and programs, transportation impacts on public health, and access to economic and social opportunities regardless of income, age, ability, race or ethnicity. Transportation equity can be difficult to evaluate because of the various types, impacts, measurement units, and categories of costs and benefits for people to consider.

Essential Public Facilities

Essential public facilities are defined in the Growth Management Act as those facilities that are necessary but typically difficult to site. Transportation facilities falling into this definition include: airports; state or regional transportation facilities; and facilities deemed to be of statewide significance including interstate highways, principal arterials, ferries serving statewide travel, intercity passenger rail services and high-speed ground transportation, the freight railroad system, the Snake-Columbia River navigable waterway system, marine ports serving international or interstate trade, high capacity transportation systems, and regional transit authority facilities. Local jurisdictions can identify additional essential public facilities. Essential public facilities can be publicly or privately owned, and include existing and future facilities. Local Comprehensive Plans must identify the process for siting these facilities. Cities and counties cannot use their Comprehensive Plans to preclude the siting of these facilities though they can require mitigations of adverse impacts. Plans must consider the process for siting, expansion, or modification of essential public facilities.

Express Toll Lane | ETL

Express Toll Lanes are dedicated high-occupancy vehicle lanes that allow single-occupancy vehicles to use those lanes for a fee, or toll. Toll rates adjust based on traffic conditions. The primary goals of ETL are to provide a choice to drivers when they need it, provide a faster and more predictable trip, and to generate revenue for future improvements. Express Toll Lanes are a congestion pricing mechanism intended to improve overall highway system performance and increase person and freight throughput.

First-and-Last Mile Connections

First and last mile connections, also commonly referred to as last mile connections, refer to the first and last segments of a longer trip. Typically applied to public transit and freight, it refers to the ways that people or goods get to the primary mode of travel from their starting point and then, how they get from the primary mode of travel to their destination at the end of the trip. The term “mile” is not a literal definition of distance but implies a short trip segment. Sometimes referred to as “last mile connection” or “first mile-last mile service.” A wide and growing array of services, technologies, and other strategies are being deployed that address this part of the trip for both passenger travel and within the supply chain.

Growth Management Act | GMA

The Growth Management Act is a Washington state law first passed in 1990 requiring state and local governments to manage Washington’s growth by identifying and protecting critical areas and natural resource lands, designating urban growth areas, preparing comprehensive plans, and implementing them through capital investments and development regulations. This approach to growth management is unique to Washington. The GMA was adopted because the Washington State Legislature found that uncoordinated and unplanned growth posed a threat to the environment, sustainable economic development and the quality of life in Washington. Instead of centralizing planning and decision-making at the state level, GMA focuses on local control within a broad and coordinated framework of state goals. Within that framework, local

governments have many choices regarding the specific content of comprehensive plans and implementing development regulations. The GMA establishes the primacy of the local Comprehensive Plan. The Comp Plan is the centerpiece of local planning and articulates a series of goals, objectives, policies, actions, and standards that are intended to guide day-to-day decisions by local and state agencies. A transportation element is a required component of the Comp Plan, and establishes Level of Service standards coordinated with local land use plans. The transportation element must be consistent with the Regional Transportation Plan which in turn must be consistent with local land use plans.

High Occupancy Vehicle | HOV

High Occupancy Vehicles are those carrying more than one person. In Washington, two or more people qualify as an HOV. HOV include vanpools and transit, as well as cars. HOV lanes are highway or street lanes restricted to use by vehicles with two or more people.

Highways of Statewide Significance | HSS

Highways of Statewide Significance are interstate highways and other principal arterials that connect major communities in Washington. The designation helps assist with the allocation and direction of funding.

Housing Affordability

Housing affordability is the relationship between housing costs and household income. Housing affordability can be measured for rented and owned housing. Once a focus primarily for very-low and low income households, it is increasingly a focus for middle income households in high growth areas where housing demand is outpacing supply, often in association with a large concentration of high-paying jobs. Traditionally, housing affordability is a housing cost that does not exceed 30 percent of a household's gross income. Increasingly, though, transportation costs are included in this equation since an "affordable home" that requires a long, expensive commute is actually not affordable. "Housing + transportation" affordability is a combined cost that does not exceed 45 percent of a household's gross income. Many factors influence housing affordability, including basic supply and demand of housing types and proximity to jobs, incomes, travel choices, and consumer preferences. Lack of housing affordability is associated with increasingly long commutes from communities with affordable housing to communities with a concentration of high paying jobs. People do not typically make long commutes for low-wage jobs.

Intermodal

Intermodal is the use of two or more modes of freight, such as truck and rail, to transport goods from shipper to receiver. The intermodal process usually begins with a container being moved by a truck to a railcar or ship, then back to a truck to complete the process.

Level of Service | LOS

Level of Service is a qualitative description of transportation system performance, reflecting agreed upon expectations about acceptable levels of performance. Historically, LOS was measured in terms of the number of vehicles using a system compared to the maximum volumes that system was designed to carry during a specific time period such as an hour, resulting in vehicle-based congestion measures usually for a one-hour peak period. Increasingly it is being redefined to better reflect overall community, regional, and statewide expectations about how the whole system performs, and its relationship to land use patterns. This may include all modes of travel, focus more on passenger or freight throughput than just vehicles, or emphasize reliability and predictability. This is especially important in highly urban corridors where maximizing system efficiency is critical. The Growth Management Act requires local agencies to adopt LOS standards in their Comprehensive Plans, monitor system performance, and use concurrency to ensure future growth does not diminish adopted LOS standards. It also requires that RTPOs establish LOS for regionally-significant facilities in collaboration with WSDOT on state facilities, and that local LOS be consistent with regional LOS. LOS standards for Highways of Statewide Significance are established by WSDOT. GMA provides great latitude in defining LOS, recognizing that it necessarily must reflect local conditions. A one-size-fits-all approach is not prescribed. Multimodal LOS is sometimes used to explicitly clarify that level of service includes other modes of travel in addition to the single-occupancy vehicle in describing system performance though any LOS standard can be multimodal.

Metropolitan Planning Organization | MPO

A Metropolitan Planning Organization is a federally mandated and federally funded transportation policy-making organization designated by the Governor to administer federal planning requirements in urban areas with a population on 50,000 or more people. It is made up of representatives from local government and governmental transportation authorities. MPOs must comply with federal transportation requirements, and are authorized to award federal funds to projects in their region that help achieve adopted visions and goals. Duties include updating a 20-year regional or metropolitan transportation plan, a regional transportation improvement program (RTIP), and a unified planning work program (UPWP). Washington has twelve MPOs. State law requires MPOs to be the lead agency for Regional Transportation Planning Organizations where their boundaries overlap. Federal MPO requirements can be found in 23 CFR Part 450.

Mixed-use Development

Mixed-use development is a type of urban development that blends residential, commercial, cultural, institutional, or entertainment uses, physically and functionally integrating those uses in ways that provide pedestrian connections. The intent of this type of development is to create opportunities to live, work, shop, and recreate in close proximity to each other. This in turn makes walking, biking, and transit viable alternatives to driving for all trip purposes. It also lowers the per capita cost of providing other government services like water and police, reduces per capita environmental impacts and energy consumption, and supports other community objectives related to vitality and social opportunity. A surge of interest in mixed-use development across the country has characterized the real estate market since the Great Recession ended and corresponds to growing consumer demand for more walkable, car-lite lifestyle options.

Mobility

Mobility refers to the movement of people and goods, regardless of travel mode. The purpose of mobility is typically not movement or travel itself, but getting access to a desired product or service or activity. In this way, mobility is a means to an end; the end is access.

Mobility as a Service | MaaS

Mobility as a Service is defined as shared-use multimodal mobility. This mobility is enabled by combining transportation services from public and private transportation providers through a unified smartphone app that creates and manages the trip, which users can pay for with a single account. MaaS represents a shift away from personally-owned modes of transportation and is increasingly transforming the business models of traditional transportation sectors like vehicle manufacturers and car rental businesses.

Multimodal Transportation

Multimodal transportation is two or more modes of travel to make a trip. A multimodal transportation system provides infrastructure and services that support more than just driving by car, such as transit, biking, walking, ferries, or newer modes of travel such as ride-hailing services.

Practical Solutions

Practical Solutions is an approach towards project planning and design that uses performance-based, data-driven decision making and early community involvement to guide the development and delivery of transportation investments. The intent is to increase the focus on system performance and enable more flexible and sustainable transportation investment decisions.

Regional Transportation Plan | RTP

A Regional Transportation Plan is a 20+ year blueprint for a region's transportation system. They are developed by RTPOs and MPOs in accordance with state and federal laws, respectively, in coordination with adopted land use plans, and are updated on a regular basis. They describe regional growth and future transportation conditions, agreed upon Level of Service standards, transportation goals and policies, and recommendations which can range from specific projects and funding priorities to regional work program activities. Regional Transportation Plans for RTPOs must be consistent with the six legislative transportation goals at the center of the Commission's statewide strategic policy plan, WTP 2040 and Beyond.

Resilient Washington

Resilient Washington is a state initiative to develop a framework and implementation strategies that will reduce the impact on life and property associated with a major earthquake, enable rapid response and recovery, and ensure the expedient restoration of services and livelihoods.

Road Usage Charge | RUC

A Road Usage Charge is a transportation fee based on vehicle miles traveled, where system users pay for use of the roadway based on distance

traveled. The Transportation Commission is conducting a RUC pilot study in 2018 to evaluate the effectiveness of such a system and its impacts across the state on different types of system users.

Regional Transportation Planning Organization | RTPO

A Regional Transportation Planning Organization is a voluntary association of local governments and other transportation stakeholders within a county or contiguous counties. RTPOs were established in Washington State in 1990 in association with Growth Management Act legislation. RTPO requirements can be found in RCW 47.80 and Chapter 468.86 WAC.

Seismic Lifeline Route

Seismic Lifeline Route is a series of roads determined as critical to keep open during emergencies to help in the movement of first responders, freight, and recovery operations following a major seismic event. The route follows a primarily north-south route connecting McChord Field at Joint Base Lewis-McChord with SeaTac Airport and with Paine Field in Everett, as well as an east-west route connecting SeaTac with the Grant County International Airport in Moses Lake. Recommendations specific to the Seismic Lifeline Route and coordination with other lifeline sectors is found in the 2017 Resilient Washington Subcabinet Report – Findings and Recommendations.

Target Zero | TZ

Target Zero is the name of Washington's Strategic Highway Safety Plan. It is based on the premise that no traffic fatality is acceptable, and it establishes as a goal the elimination of fatality and serious injury crashes by 2030. It emphasizes the "4 E's" of transportation safety – engineering, education, enforcement, and emergency response. Target Zero is developed and maintained by the Washington Traffic Safety Commission.

Transportation Benefit District | TBD

A Transportation Benefit District is a quasi-municipal corporation and taxing district created for the sole purpose of acquiring, constructing, improving, providing, and funding transportation improvements within the district. A TBD can raise revenue for transportation projects through a vehicle license fee of $20 - $40, or a voter-approved .02 percent retail sales tax. Revenue may be used for improvements ranging from roads and transit service to sidewalks and transportation demand management activities. Construction, maintenance, and operation costs are eligible.

Transportation Network Company | TNC

A Transportation Network Company, sometimes referred to as a mobility service provider, is an organization that pairs passengers via websites and mobile apps with drivers who provide such services. TNCs are examples of the emerging sharing economy and shared mobility. Well-known examples of TNCs include Uber and Lyft, though many traditional companies like car manufacturers and software companies are also forming TNCs. This is a relatively new and rapidly evolving element of the transportation system, one that local and state agencies are still working to understand and incorporate seamlessly into a multimodal system that provides equitable access to social and economic opportunities.

Transportation Systems Management and Operations | TSMO

Transportation Systems Management and Operations refers to the practice of using multimodal transportation strategies, technologies, and pricing mechanisms to maximize the efficiency, safety, and utility of the existing transportation network. While it has application in any situation, it is particularly important in areas where roads and highways are largely built out or where transportation funding to increase capacity is limited. It includes such things as traveler information, ramp metering, incident management, traffic management centers, access management, travel demand managements, tolling and congestion pricing, among many other strategies to increase overall system operating efficiency and performance.

Travel Demand Management | TDM

Travel Demand Management encompasses a suite of tools that modify peoples' travel behavior to better manage system capacity and improve operating efficiency. Examples of TDM tools range from "incentive" type programs like employer-subsidized bus passes, compressed work weeks, and telework options, to "market measures" like employee-paid parking and variable-rate toll roads with rates based on time-of-day travel. The State's Commute Trip Reduction program is a TDM element. Even measures like effective land use planning fall under the realm of TDM, since the way a community is built – and the kind of travel options it provides – will influence individual travel behavior

Urban Growth Area | UGA

An Urban Growth Area is a regional boundary established to designate where urban-style development exists and will occur in the future. Areas outside of a UGA boundary is intended to remain rural. A UGA boundary typically includes a city or town as well as the unincorporated area around it that will accommodate urban growth in the future, even though it may not be urban today.

Washington State Department of Transportation | WSDOT

The Washington State Department of Transportation is the owner-operator of the state's transportation system. WSDOT is responsible for building, maintaining, and operating the state highway system and ferry system. WSDOT also works in partnership with others to maintain and improve local roads, railroads, and airports, as well as to support alternatives to driving, such as public transportation, bicycles, and pedestrian programs. WSDOT also conducts multimodal planning and manages the statewide RTPO and tribal transportation planning program.

Washington State Transportation Commission | WSTC

The Washington State Transportation Commission is a seven member body of citizens appointed by the Governor for six-year terms, and includes the WSDOT Secretary and a representative from the Governor's Office as ex officio members. As a public forum for transportation policy development, the Commission develops and maintains a 20-year strategic statewide policy plan that addresses local, regional, and statewide needs, and coordinates state transportation policy with local and regional transportation and land use plans. It is designated as the State Tolling Authority and establishes all state and bridge tolls and sets fares for Washington State ferries. It conducts other tasks assigned by the legislature, including in 2018 a Road Usage Charge Pilot Program, and an Autonomous Vehicle Work Group.

Useful Resources

RTPO and MPO Websites		
Organization	**Abbreviation**	**Website**
Benton-Franklin Council of Governments*	BFCOG	www.bfcog.us
Chelan-Douglas Transportation Council*	CDTC	www.chelan-douglas.org
Cowlitz-Wahkiakum Council of Governments*	CWCOG	www.cwcog.org
Island Regional Transportation Planning Organization	IRTPO	www.islandcountywa.gov
Lewis Clark Valley Metropolitan Planning Organization*	LCVMPO	www.lewisclarkmpo.org
NE WA Regional Transportation Planning Organization	NEW RTPO	http://tricountyedd.com/new-rtpo/
Okanogan Council of Governments	OCOG	pending
Palouse RTPO	PRTPO	www.palousertpo.org
Peninsula Regional Transportation Planning Organization	PRTPO	www.wsdot.wa.gov/partners/prtpo/
Puget Sound Regional Council*	PSRC	www.psrc.org
Quad-County Regional Transportation Planning Organization	QUADCO	https://www.ezview.wa.gov/site/alias__1898/36282/default.aspx
Skagit Council of Governments*	SCOG	www.scog.net
Spokane Regional Transportation Council*	SRTC	www.srtc.org
SW WA Regional Transportation Council*	SW RTC	www.rtc.wa.gov
SW WA Regional Transportation Planning Organization	SWRTPO	www.cwcog.org
Thurston Regional Planning Council*	TRPC	www.trpc.org
Walla Walla Valley Metropolitan Planning Organization*	WWVMPO	www.wwvmpo.org
Walla Walla Valley Sub-RTPO	WWV Sub-RTPO	www.wwvmpo.org
Whatcom Council of Governments*	WCOG	www.wcog.org
Yakima Valley Conference of Governments*	YVCOG	www.yvcog.org
* Denotes an MPO. Where the boundary is different from the RTPO, the MPO serves as the lead agency for the RTPO.		

WSDOT Strategic and Modal Plans		
Aviation System Plan	2017	http://www.wsdot.wa.gov/aviation/Planning/
Bicycle Facilities and Pedestrian Walkways Plan	2008*/2019	http://www.wsdot.wa.gov/Bike/Bike_Plan.htm
Ferry System Plan	2009*/2019	http://www.wsdot.wa.gov/ferries/planning
Freight System Plan	2017	https://www.wsdot.wa.gov/Freight/systemplan.htm
Grain Train Strategic Plan	2017	http://www.wsdot.wa.gov/freight/rail/graintrain.htm
Highway System Plan	2007	https://www.wsdot.wa.gov/sites/default/files/2006/02/14/2007FullHSP.pdf
Passenger & Freight Rail Plan	2014*/2019	http://www.wsdot.wa.gov/Rail/staterailplan.htm
Public Transportation Plan	2016	http://www.wsdot.wa.gov/Transit/TransportationPlan
Statewide Human Services Transportation Plan	2014	http://www.wsdot.wa.gov/sites/default/files/2017/05/02/WAStatewideHumanTransportationServicesPlan-2014.pdf
Target Zero Strategic Highway Safety Plan**	2016	http://www.targetzero.com/plan.htm
Travel Washington Intercity Bus Plan Update	2007*/2019	http://www.kfhgroup.com/wsdot/travelwashingtonplan.html
Ultra-High-Speed Ground Transportation Study	2017	http://www.wsdot.wa.gov/planning/studies/ultra-high-speed-travel/ground-transportation-study
WTP Phase 2 Implementation Plan 2017-2040	2018	https://washtransplan.com/wp-content/uploads/2018/05/WTPPhase2-2017-web-Plan-1.pdf
* Updates are actively underway in 2018 with completion anticipated in 2019		
** Technically a plan of the Washington Traffic Safety Commission		

Additional Resources Related to WTP *2040 and Beyond* Content	
Washington Road Usage Charge Pilot Project	https://waroadusagecharge.org/
2035 Washington Transportation Plan	https://washtransplan.com/
Transportation Systems Management and Operations	http://fratis.trac.washington.edu/TSMO/?loc=Home.html
Practical Solutions	http://www.wsdot.wa.gov/about/practical-solutions
Resilient Washington	https://mil.wa.gov/emergency-management-division/resilient-washington-subcabinet
JTC Air Cargo Study	http://leg.wa.gov/JTC/Pages/aircargo.aspx
Transportation Resource Manual – 2017 Update	http://leg.wa.gov/JTC/trm/Pages/TRM2017.aspx
The Gray Notebook	https://www.wsdot.wa.gov/Accountability/GrayNotebook/SubjectIndex.htm
New Mobility Playbook (Seattle)	https://newmobilityseattle.info/
Challenge Seattle Transportation Plan	http://www.challengeseattle.com/transportation/

www.wtp2040andbeyond.com